Proton Driver Error Simulations (Front-End only)

150 set of errors simulated

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ALGN2 Parameter TRACKv39 (new parameter)

n ALGN2 name δ_x δ_y δ_z ϕ_x ϕ_y ϕ_z $\delta\phi_{dyn.}$ $\delta\phi_{static}$ $\delta F_{dyn.}$ δF_{static}

- From RFQ exit to end of 325 MHz section ($\sim$140 meters)
- 120 errors simulated with TRACKv39
- Each error simulated with 400 runs with 3D SC (45 mA)
- 120$\times$400=48000 runs with TRACKv39

Parameters 01-20

- 01/ Solenoids $\delta_x = 150\ \mu$m
- 02/ Solenoids $\delta_x = 300\ \mu$m
- 03/ Solenoids $\delta_x = 500\ \mu$m
- 04/ Solenoids $\delta_x = 750\ \mu$m
- 05/ Solenoids $\delta_x = 1000\ \mu$m

- 06/ Solenoids $\phi_x = 1$ mrad
- 07/ Solenoids $\phi_x = 2$ mrad
- 08/ Solenoids $\phi_x = 5$ mrad
- 09/ Solenoids $\phi_x = 7$ mrad
- 10/ Solenoids $\phi_x = 10$ mrad

- 11/ Quads $\delta_x = 150\ \mu$m
- 12/ Quads $\delta_x = 300\ \mu$m
- 13/ Quads $\delta_x = 500\ \mu$m
- 14/ Quads $\delta_x = 750\ \mu$m
- 15/ Quads $\delta_x = 1000\ \mu$m

- 16/ Quads $\phi_z = 1$ mrad
- 17/ Quads $\phi_z = 2$ mrad
- 18/ Quads $\phi_z = 5$ mrad
- 19/ Quads $\phi_z = 7$ mrad
- 20/ Quads $\phi_z = 10$ mrad

Parameters 21-40

- 21/ Cav. Phase $\delta\phi_{dynamic} = 0.5°$
- 22/ Cav. Phase $\delta\phi_{dynamic} = 1.0°$
- 23/ Cav. Phase $\delta\phi_{dynamic} = 1.5°$
- 24/ Cav. Phase $\delta\phi_{dynamic} = 2.0°$
- 25/ Cav. Phase $\delta\phi_{dynamic} = 2.5°$

- 26/ Cav. Phase $\delta\phi_{static} = 0.5°$
- 27/ Cav. Phase $\delta\phi_{static} = 1.0°$
- 28/ Cav. Phase $\delta\phi_{static} = 1.5°$
- 29/ Cav. Phase $\delta\phi_{static} = 2.0°$
- 30/ Cav. Phase $\delta\phi_{static} = 2.5°$

- 31/ Cav. Field $\delta F_{dynamic} = 0.5$ %
- 32/ Cav. Field $\delta F_{dynamic} = 1.0$ %
- 33/ Cav. Field $\delta F_{dynamic} = 1.5$ %
- 34/ Cav. Field $\delta F_{dynamic} = 2.0$ %
- 35/ Cav. Field $\delta F_{dynamic} = 2.5$ %

- 36/ Cav. Field $\delta F_{static} = 0.5$ %
- 37/ Cav. Field $\delta F_{static} = 1.0$ %
- 38/ Cav. Field $\delta F_{static} = 1.5$ %
- 39/ Cav. Field $\delta F_{static} = 2.0$ %
- 40/ Cav. Field $\delta F_{static} = 2.5$ %

Parameters 41-60

- 41/ Cav. $\delta_x = 150\ \mu$m
- 42/ Cav. $\delta_x = 300\ \mu$m
- 43/ Cav. $\delta_x = 500\ \mu$m
- 44/ Cav. $\delta_x = 750\ \mu$m
- 45/ Cav. $\delta_x = 1000\ \mu$m

- 46/ Cav. $\delta_x = \delta_y = 150\ \mu$m
- 47/ Cav. $\delta_x = \delta_y = 300\ \mu$m
- 48/ Cav. $\delta_x = \delta_y = 500\ \mu$m
- 49/ Cav. $\delta_x = \delta_y = 750\ \mu$m
- 50/ Cav. $\delta_x = \delta_y = 1000\ \mu$m

- 51/ Cav. $\delta_z = 150\ \mu$m
- 52/ Cav. $\delta_z = 300\ \mu$m
- 53/ Cav. $\delta_z = 500\ \mu$m
- 54/ Cav. $\delta_z = 750\ \mu$m
- 55/ Cav. $\delta_z = 1000\ \mu$m

- 56/ Cav. $\phi_x = 1$ mrad
- 57/ Cav. $\phi_x = 2$ mrad
- 58/ Cav. $\phi_x = 5$ mrad
- 59/ Cav. $\phi_x = 7$ mrad
- 60/ Cav. $\phi_x = 10$ mrad

Parameters 61-80

- 61/ Cav. $\phi_x = \phi_y = 1$ mrad
- 62/ Cav. $\phi_x = \phi_y = 2$ mrad
- 63/ Cav. $\phi_x = \phi_y = 5$ mrad
- 64/ Cav. $\phi_x = \phi_y = 7$ mrad
- 65/ Cav. $\phi_x = \phi_y = 10$ mrad

- 66/ Cav. $\phi_z = 1$ mrad
- 67/ Cav. $\phi_z = 2$ mrad
- 68/ Cav. $\phi_z = 5$ mrad
- 69/ Cav. $\phi_z = 7$ mrad
- 70/ Cav. $\phi_z = 10$ mrad

- 71/ Sol. $\delta_x = \delta_y = 150\ \mu$m
- 72/ Sol. $\delta_x = \delta_y = 300\ \mu$m
- 73/ Sol. $\delta_x = \delta_y = 500\ \mu$m
- 74/ Sol. $\delta_x = \delta_y = 750\ \mu$m
- 75/ Sol. $\delta_x = \delta_y = 1000\ \mu$m

- 76/ Sol. $\delta_z = 150\ \mu$m
- 77/ Sol. $\delta_z = 300\ \mu$m
- 78/ Sol. $\delta_z = 500\ \mu$m
- 79/ Sol. $\delta_z = 750\ \mu$m
- 80/ Sol. $\delta_z = 1000\ \mu$m

Parameters 81-100

- 81/ Sol. $\phi_x = \phi_y = 1$ mrad
- 82/ Sol. $\phi_x = \phi_y = 2$ mrad
- 83/ Sol. $\phi_x = \phi_y = 5$ mrad
- 84/ Sol. $\phi_x = \phi_y = 7$ mrad
- 85/ Sol. $\phi_x = \phi_y = 10$ mrad

- 86/ Sol. Field $\delta F_{dynamic} = 0.5$ %
- 87/ Sol. Field $\delta F_{dynamic} = 1.0$ %
- 88/ Sol. Field $\delta F_{dynamic} = 1.5$ %
- 89/ Sol. Field $\delta F_{dynamic} = 2.0$ %
- 90/ Sol. Field $\delta F_{dynamic} = 2.5$ %

- 91/ Sol. Field $\delta F_{static} = 0.5$ %
- 92/ Sol. Field $\delta F_{static} = 1.0$ %
- 93/ Sol. Field $\delta F_{static} = 1.5$ %
- 94/ Sol. Field $\delta F_{static} = 2.0$ %
- 95/ Sol. Field $\delta F_{static} = 2.5$ %

- 96/ Quads $\delta_x = \delta_y = 150$ μm
- 97/ Quads $\delta_x = \delta_y = 300$ μm
- 98/ Quad $\delta_x = \delta_y = 500$ μm
- 99/ Quads $\delta_x = \delta_y = 750$ μm
- 100/ Quads $\delta_x = \delta_y = 1000$ μm

Parameters 101-120

- 101/ Quads $\delta_z = 150\ \mu$m
- 102/ Quads $\delta_z = 300\ \mu$m
- 103/ Quads $\delta_z = 500\ \mu$m
- 104/ Quads $\delta_z = 750\ \mu$m
- 105/ Quads $\delta_z = 1000\ \mu$m

- 106/ Quads $\phi_x = 1$ mrad
- 107/ Quads $\phi_x = 2$ mrad
- 108/ Quads $\phi_x = 5$ mrad
- 109/ Quads $\phi_x = 7$ mrad
- 110/ Quads $\phi_x = 10$ mrad

- 111/ Quads $\phi_x = \phi_y = 1$ mrad
- 112/ Quads $\phi_x = \phi_y = 2$ mrad
- 113/ Quads $\phi_x = \phi_y = 3$ mrad
- 114/ Quads $\phi_x = \phi_y = 7$ mrad
- 115/ Quads $\phi_x = \phi_y = 10$ mrad

- 116/ Quads Field $\delta F_{dynamic} = 0.5$ %
- 117/ Quads Field $\delta F_{dynamic} = 1.0$ %
- 118/ Quads Field $\delta F_{dynamic} = 1.5$ %
- 119/ Quads Field $\delta F_{dynamic} = 2.0$ %
- 120/ Quads Field $\delta F_{dynamic} = 2.5$ %

ALGN Parameter TRACKv39 (121 and above

n ALGN name δ_{xy} δ_z ϕ_z $\delta\phi_{dyn.}$ $\delta\phi_{static}$ $\delta F_{dyn.}$ δF_{static}

- From RFQ exit to end of 325 MHz section ($\sim$140 meters)
- 120 errors simulated with TRACKv39
- Each error simulated with 400 runs with 3D SC (45 mA)
- 120$\times$400=48000 runs with TRACKv39

Parameters 121-140

- 121/ Quads Field $\delta F_{static} = 0.5$ %
- 122/ Quads Field $\delta F_{static} = 1.0$ %
- 123/ Quads Field $\delta F_{static} = 1.5$ %
- 124/ Quads Field $\delta F_{static} = 2.0$ %
- 125/ Quads Field $\delta F_{static} = 2.5$ %

- 126/ Sol. $\delta_{xy} = 150$ μm
- 127/ Sol. $\delta_{xy} = 300$ μm
- 128/ Sol. $\delta_{xy} = 500$ μm
- 129/ Sol. $\delta_{xy} = 750$ μm
- 130/ Sol. $\delta_{xy} = 1000$ μm

- 131/ Quads $\delta_{xy} = 150$ μm
- 132/ Quads $\delta_{xy} = 300$ μm
- 133/ Quads $\delta_{xy} = 500$ μm
- 134/ Quads $\delta_{xy} = 750$ μm
- 135/ Quads $\delta_{xy} = 1000$ μm

- 136/ Cavity $\delta_{xy} = 150$ μm
- 137/ Cavity $\delta_{xy} = 300$ μm
- 138/ Cavity $\delta_{xy} = 500$ μm
- 139/ Cavity $\delta_{xy} = 750$ μm
- 140/ Cavity $\delta_{xy} = 1000$ μm

Parameters 141-150

- 141/ Cav. Phase + Cav. Field $\delta\phi_{dyn.} = 1^\circ$ $\delta F_{dyn.} = 1\%$
- 142/ 141+ Sol. Field $\delta F_{dyn.} = 0.5$ % $\delta F_{static} = 0.5$ %
- 143/ 142 + Quads Fields $\delta F_{dyn.} = 0.5$ % $\delta F_{static} = 0.05$ %
- 144/ 143 + Cav. $\delta_{xy} = 500$ μm
- 145/ 144 + Cav. $\phi_z = 2$ mrad

- 146/ 145 + Sol. $\delta_{xy} = 150$ μm
- 147/ 146 + Sol. $\delta_{xy} = 300$ μm
- 148/ 147 + Sol. $\delta_{xy} = 500$ μm
- 149/ 148 + Sol. $\delta_{xy} = 750$ μm
- 150/ 149 + Sol. $\delta_{xy} = 1000$ μm

(01) Solenoids $\delta_x = 150\ \mu$m

Figure: RMS Emittance X

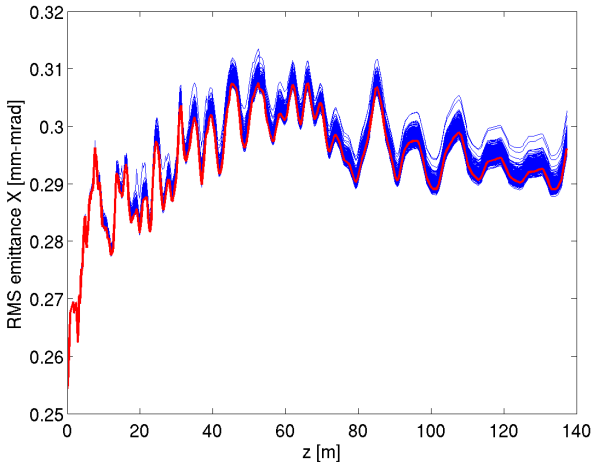


Figure: RMS Emittance Y

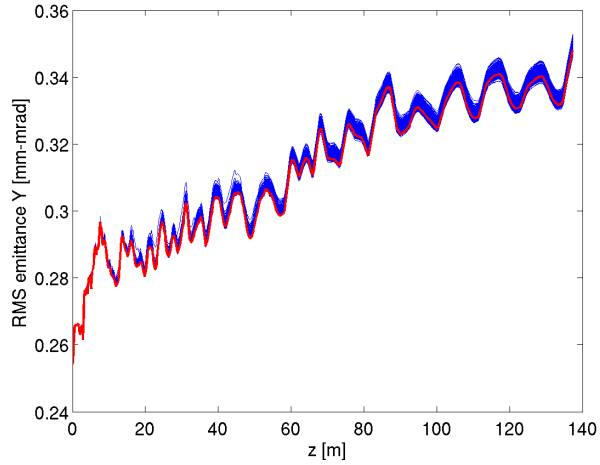


Figure: RMS Emittance Z

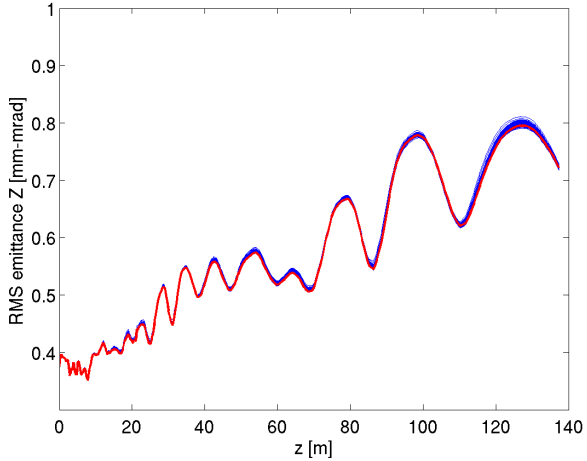
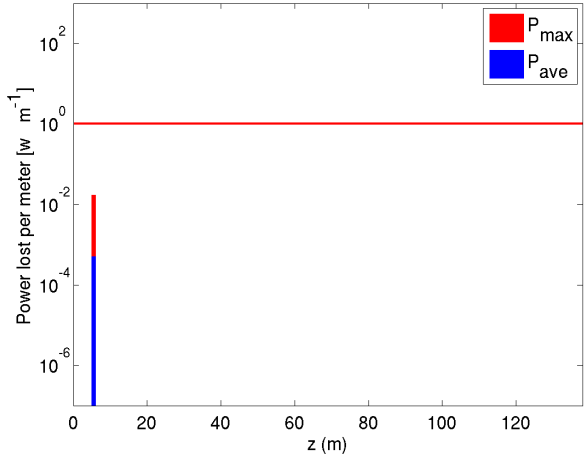


Figure: Losses [W·m^{-1}]



(02) Solenoids $\delta_x = 300\ \mu$m

Figure: RMS Emittance X

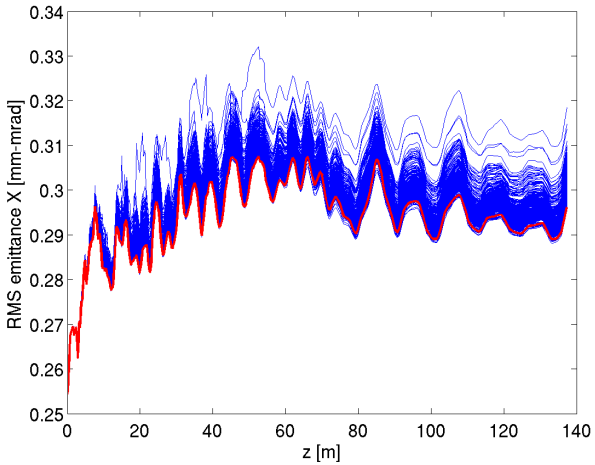


Figure: RMS Emittance Y

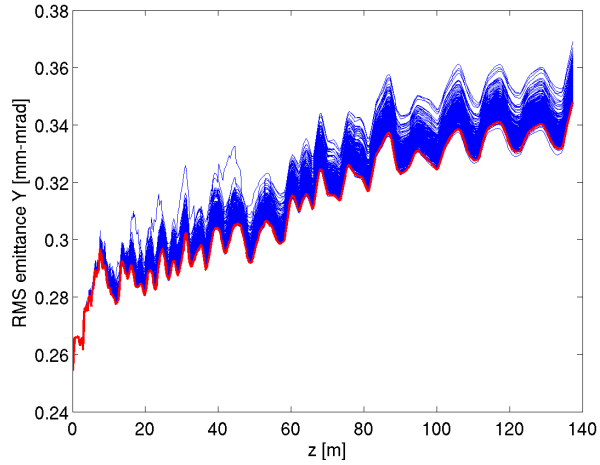


Figure: RMS Emittance Z

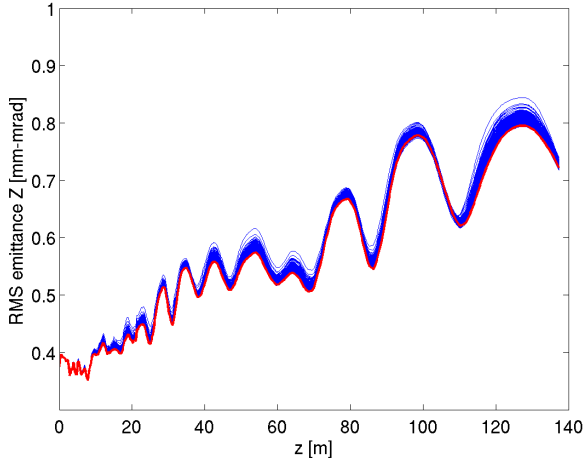
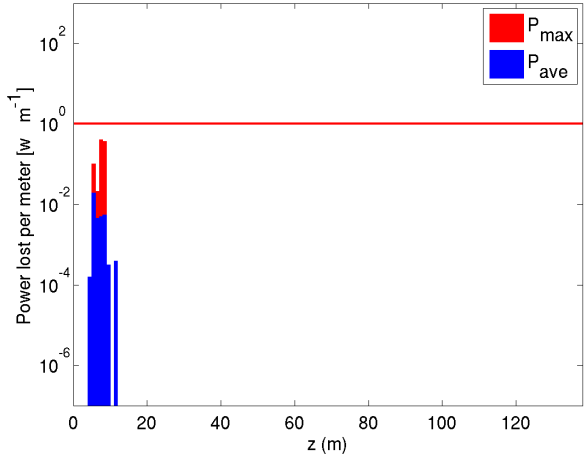


Figure: Losses [W·m^{-1}]



(03) Solenoids $\delta_x = 500\ \mu$m

Figure: RMS Emittance X

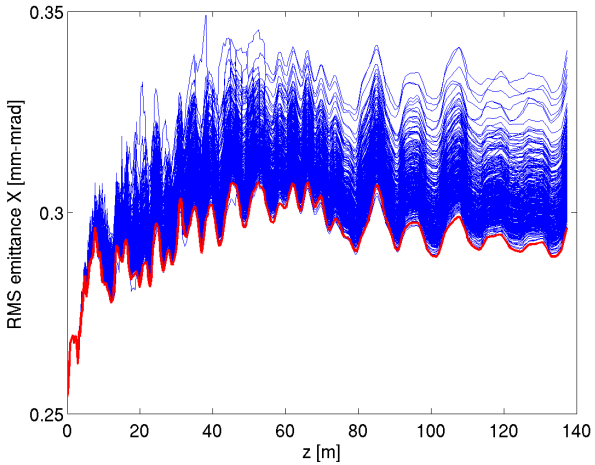


Figure: RMS Emittance Y

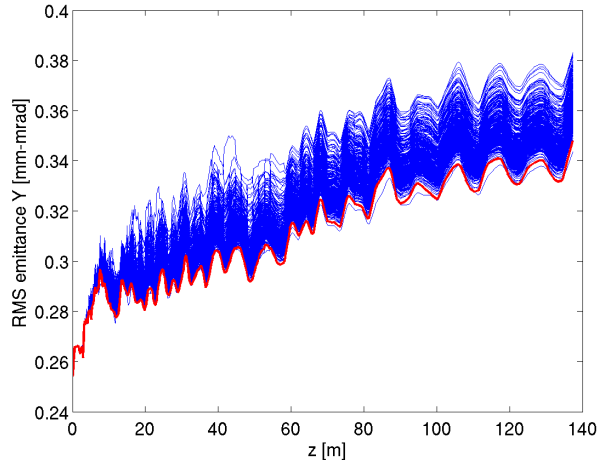


Figure: RMS Emittance Z

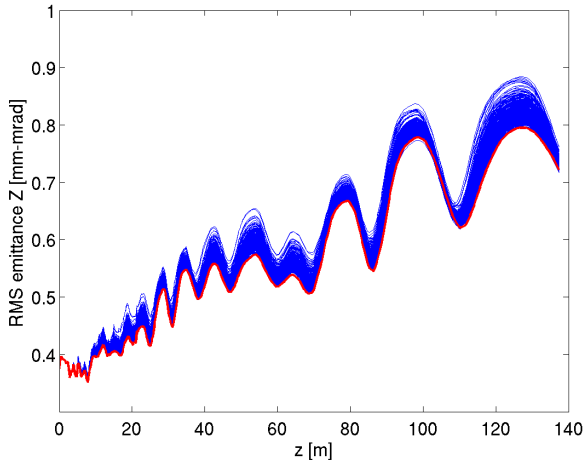
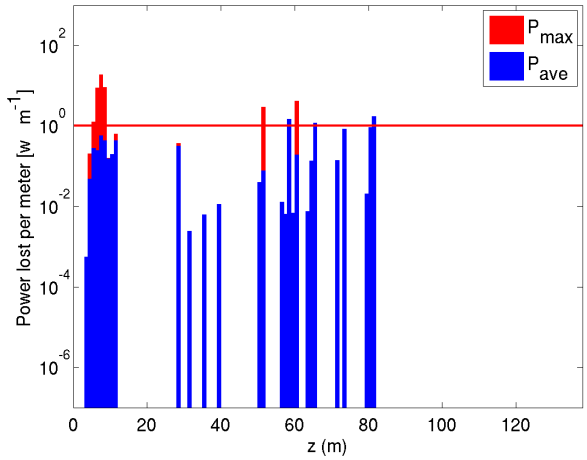


Figure: Losses [W·m^{-1}]



(04) Solenoids $\delta_x = 750\ \mu$m

Figure: RMS Emittance X

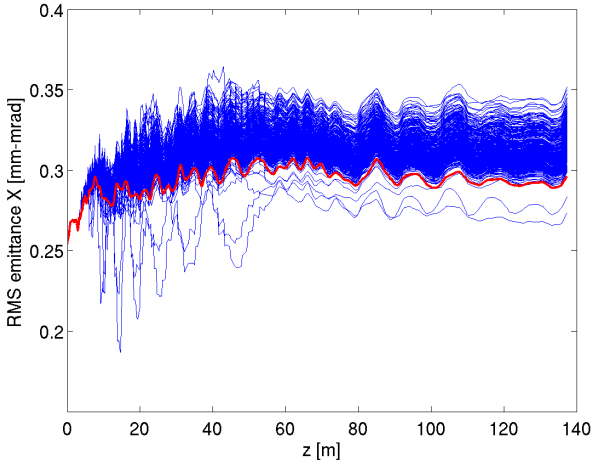


Figure: RMS Emittance Y

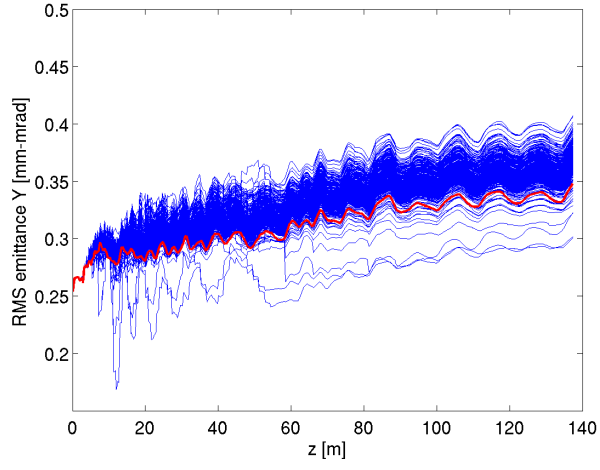


Figure: RMS Emittance Z

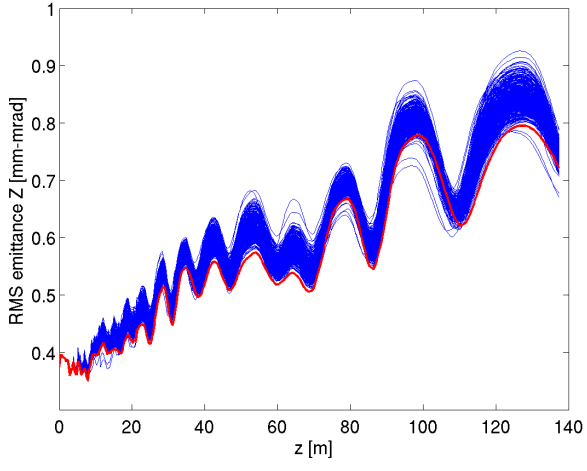
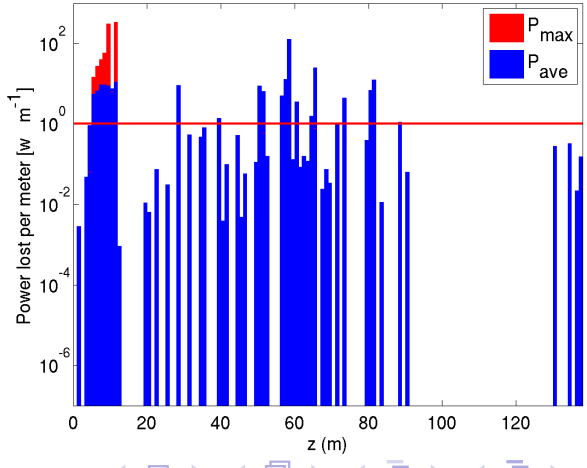


Figure: Losses [W·m^{-1}]



(05) Solenoids $\delta_x = 1000\ \mu$m

Figure: RMS Emittance X

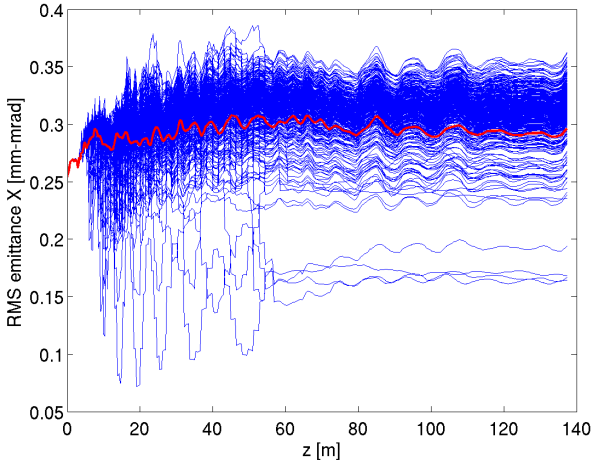


Figure: RMS Emittance Y

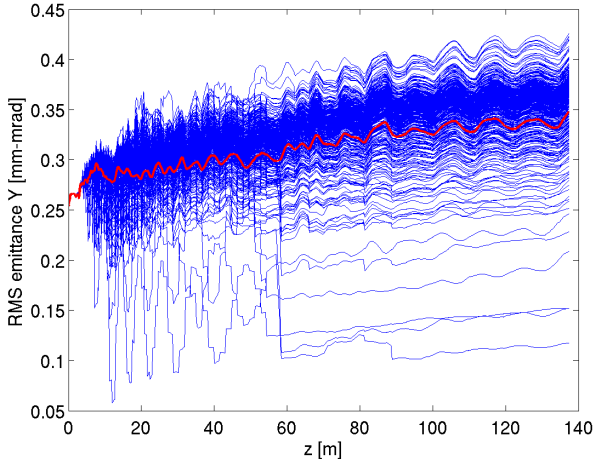


Figure: RMS Emittance Z

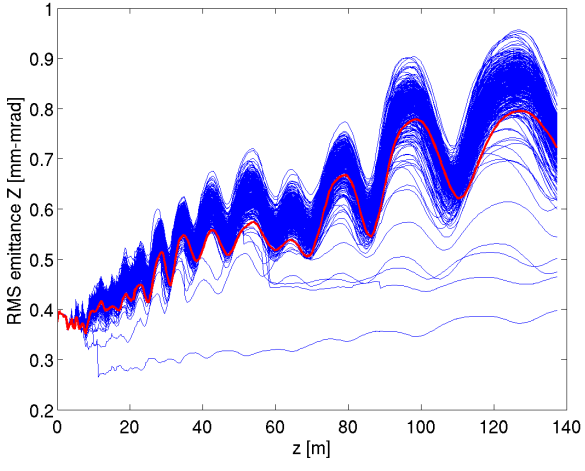
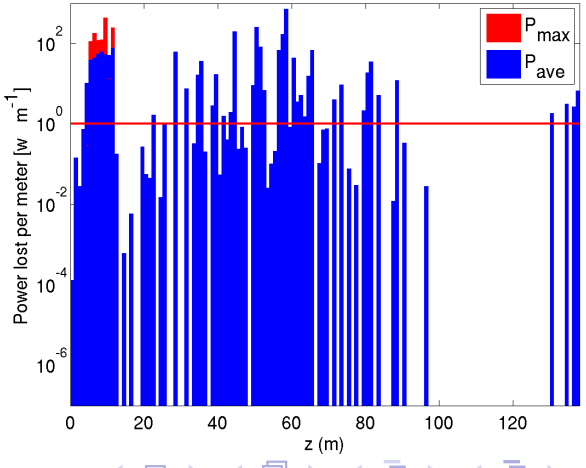


Figure: Losses [W·m^{-1}]



(06) Solenoids $\phi_x = 1$ mrad

Figure: RMS Emittance X

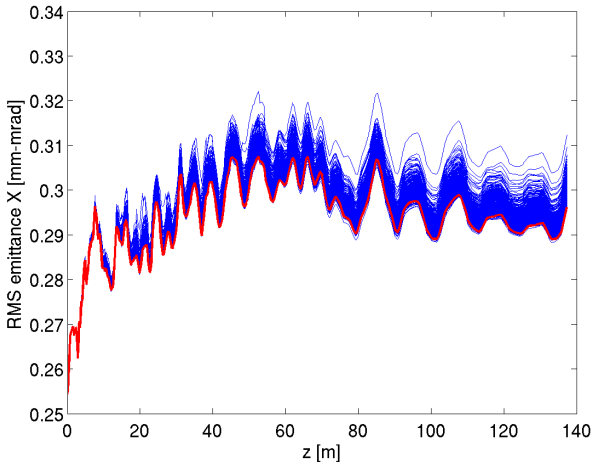


Figure: RMS Emittance Y

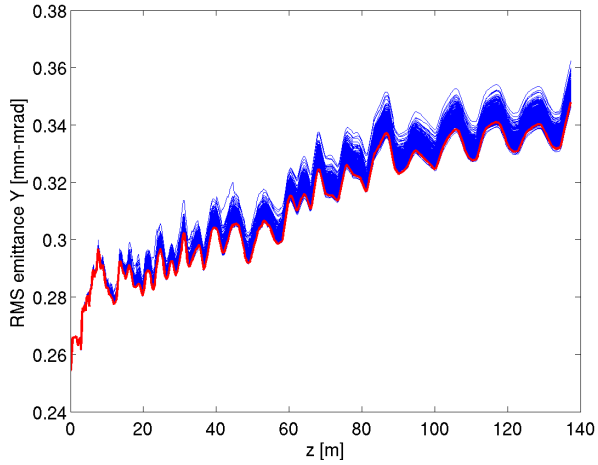


Figure: RMS Emittance Z

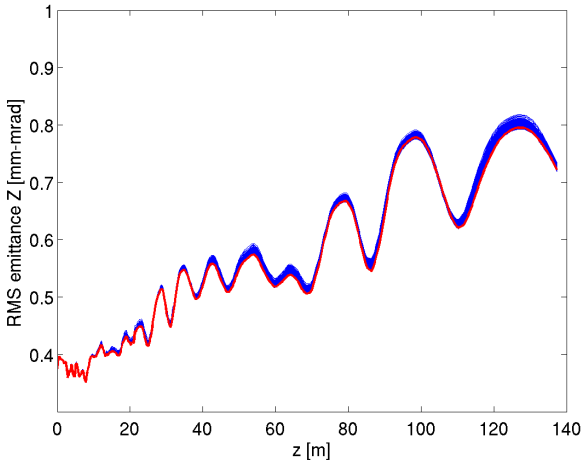
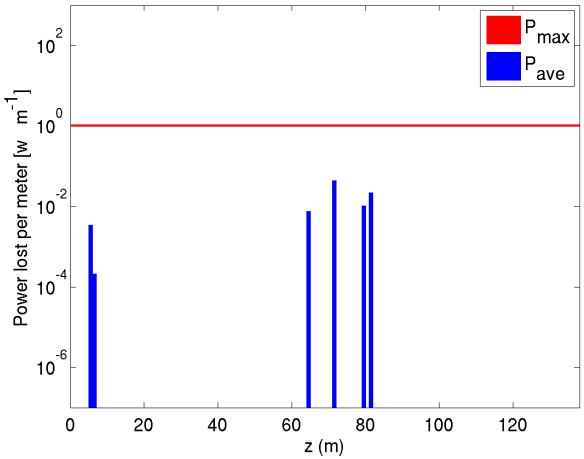


Figure: Losses [W·m^{-1}]



(07) Solenoids $\phi_x = 2$ mrad

Figure: RMS Emittance X

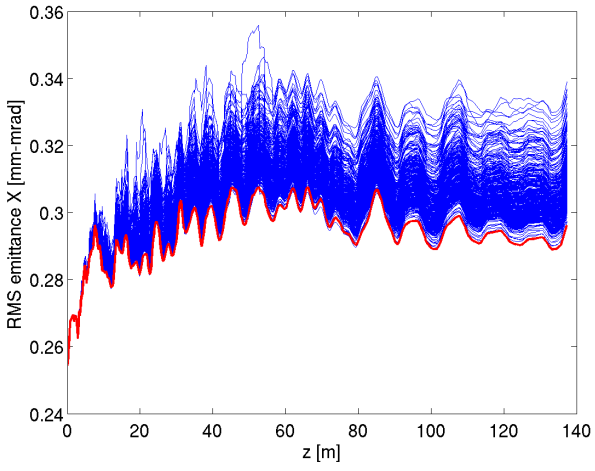


Figure: RMS Emittance Y

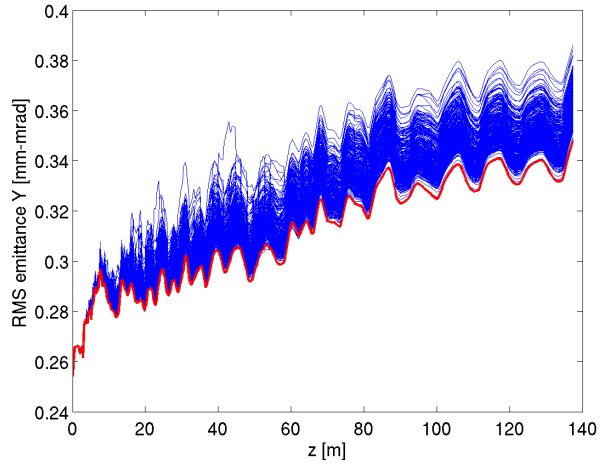


Figure: RMS Emittance z

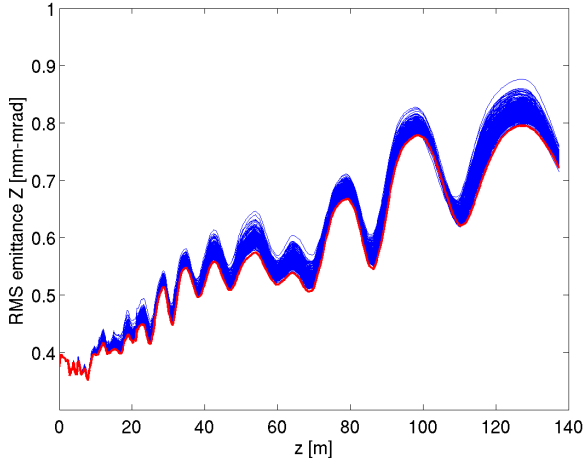
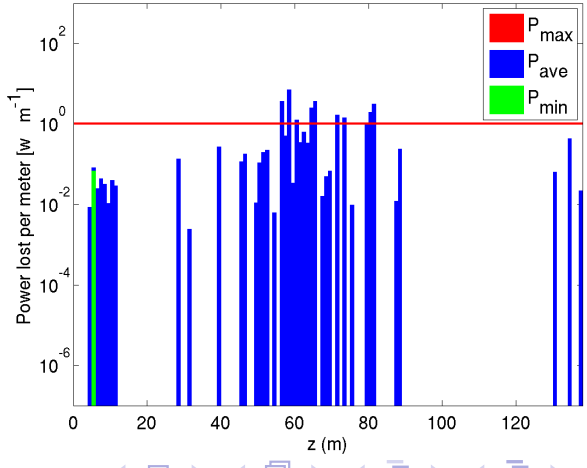


Figure: Losses [W·m^{-1}]



(08) Solenoids $\phi_x = 5$ mrad

Figure: RMS Emittance X

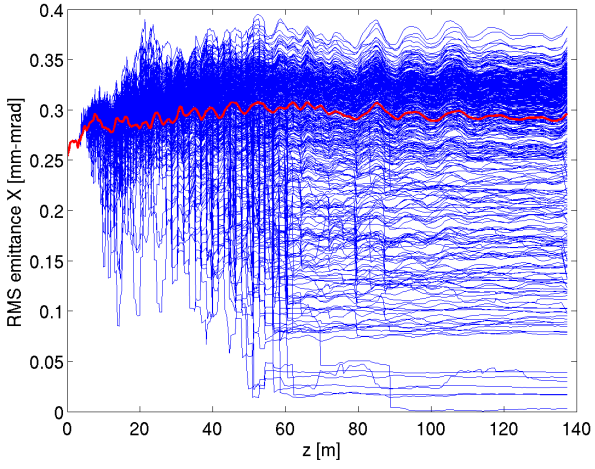


Figure: RMS Emittance Y

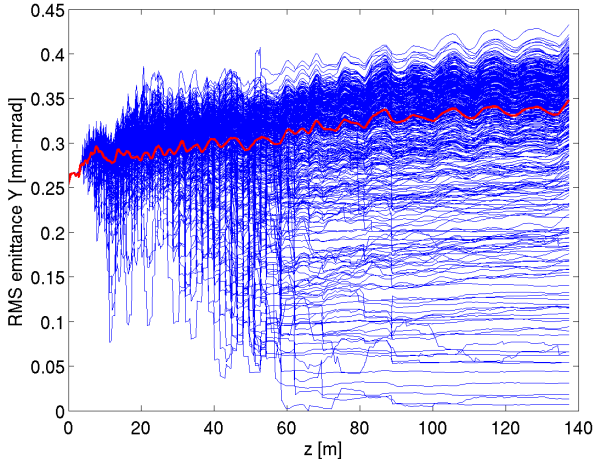


Figure: RMS Emittance Z

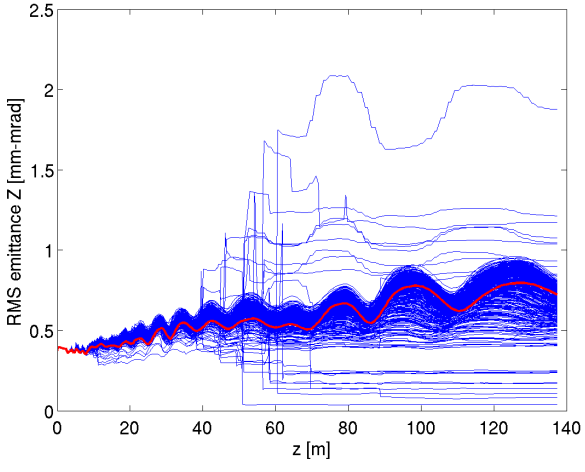
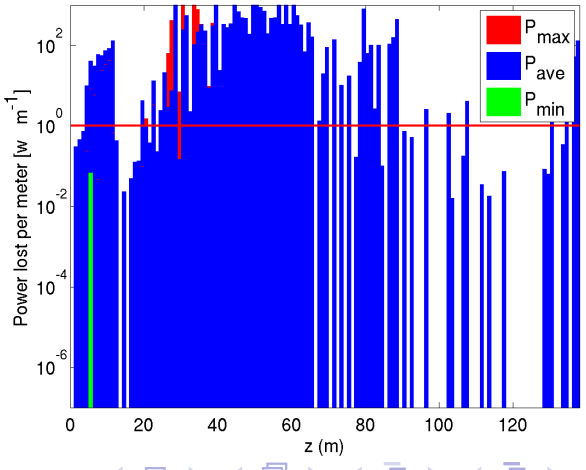


Figure: Losses [W·m^{-1}]



(09) Solenoids $\phi_x = 7$ mrad

Figure: RMS Emittance X

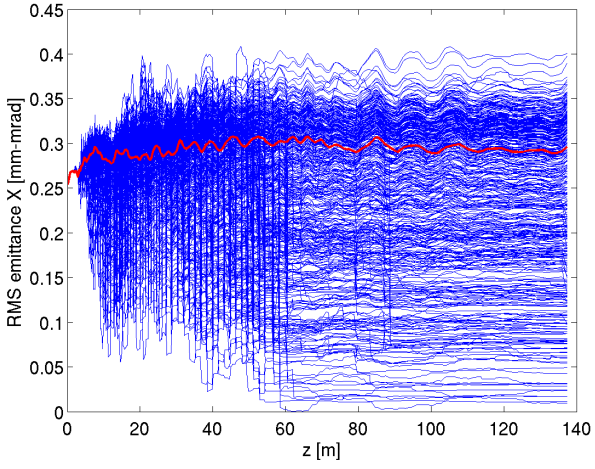


Figure: RMS Emittance Y

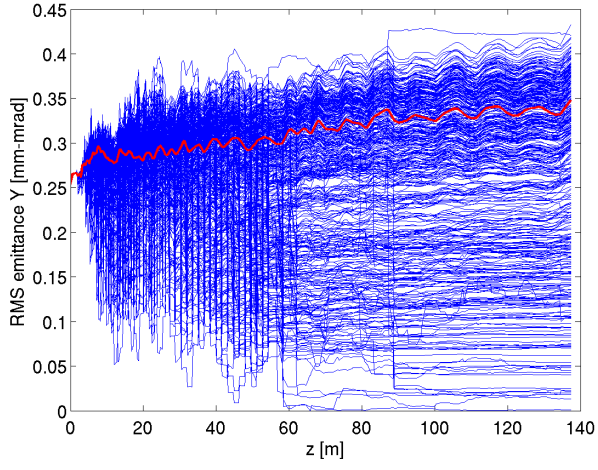


Figure: RMS Emittance Z

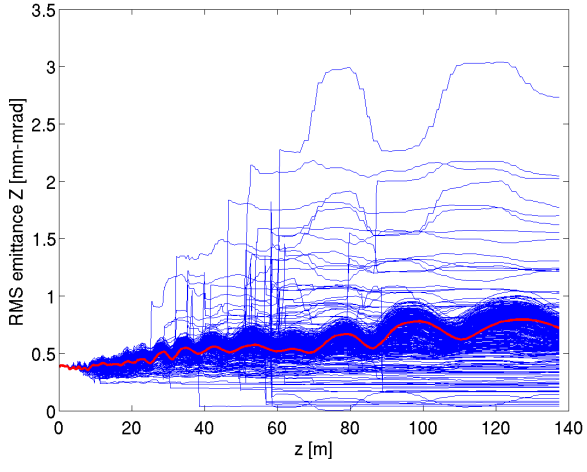
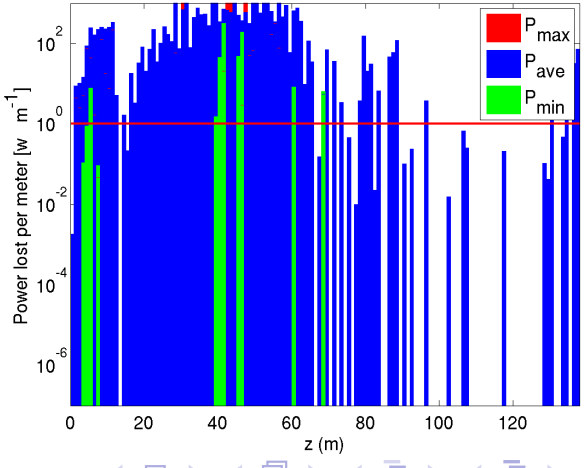


Figure: Losses [W·m^{-1}]



(10) Solenoids $\phi_x = 10$ mrad

Figure: RMS Emittance X

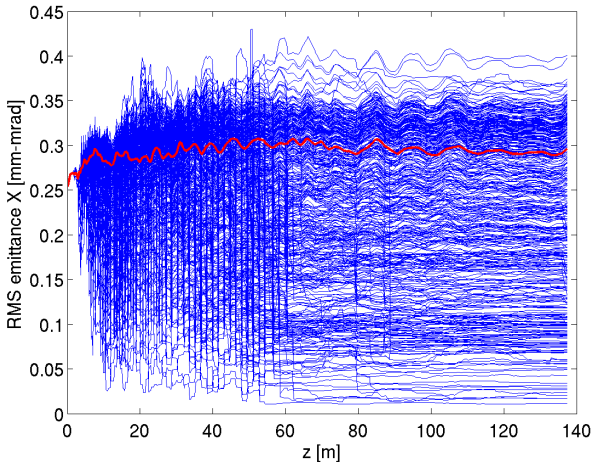


Figure: RMS Emittance Y

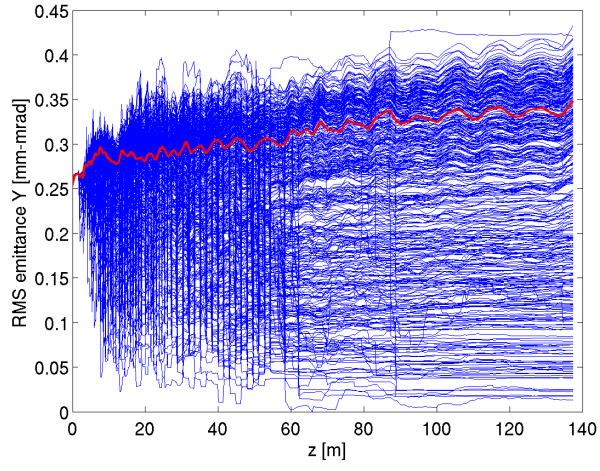


Figure: RMS Emittance Z

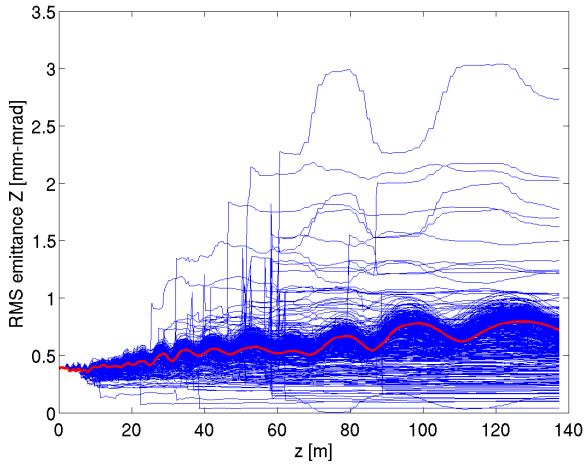
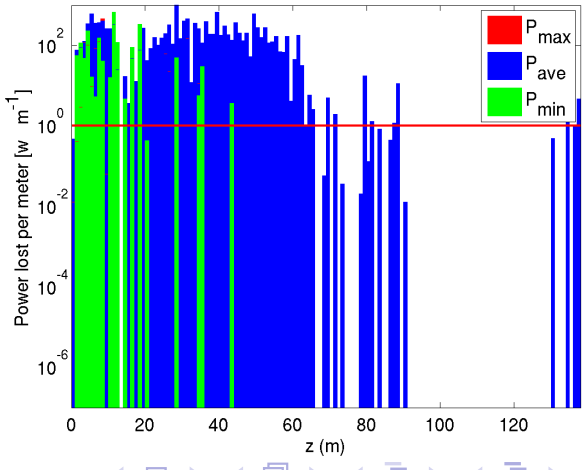


Figure: Losses [W·m^{-1}]



(11) Quads $\delta_x = 150\ \mu$m

Figure: RMS Emittance X

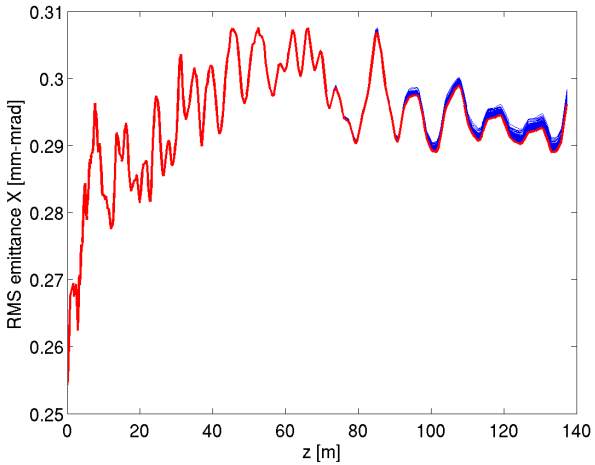


Figure: RMS Emittance Y

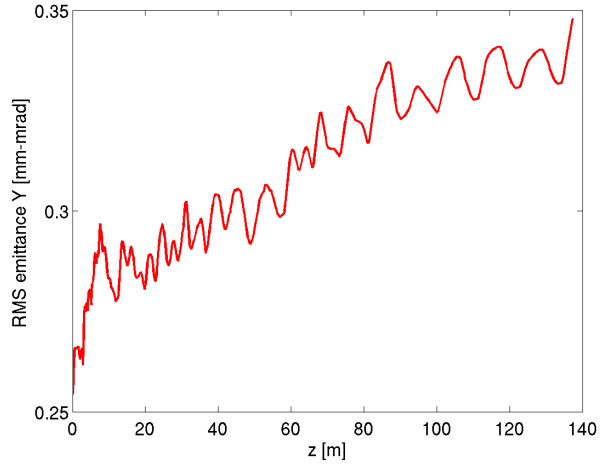


Figure: RMS Emittance Z

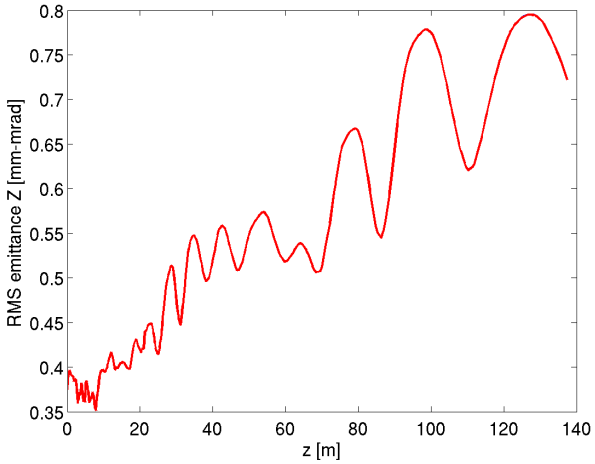
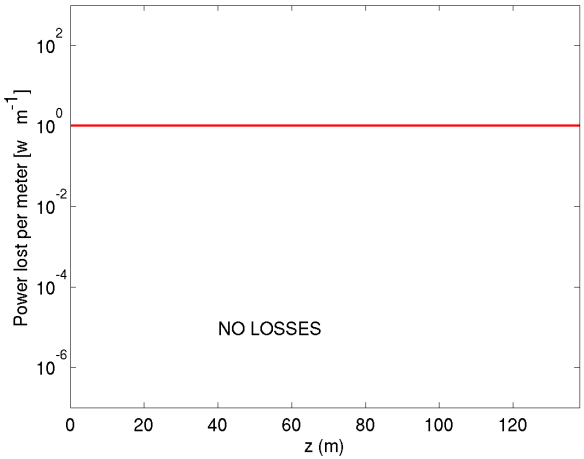


Figure: Losses [W·m^{-1}]



(12) Quads $\delta_x = 300\ \mu$m

Figure: RMS Emittance X

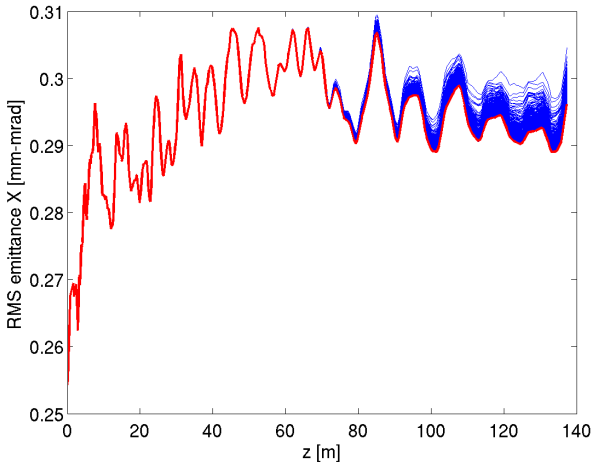


Figure: RMS Emittance Y

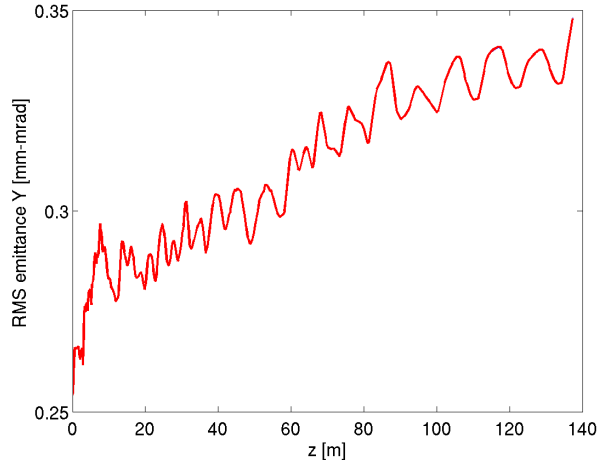


Figure: RMS Emittance Z

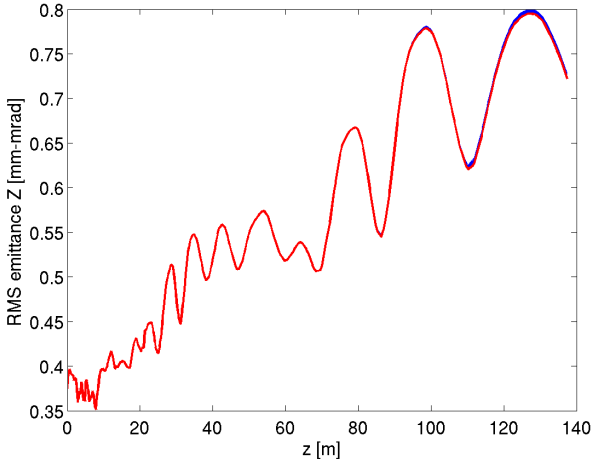
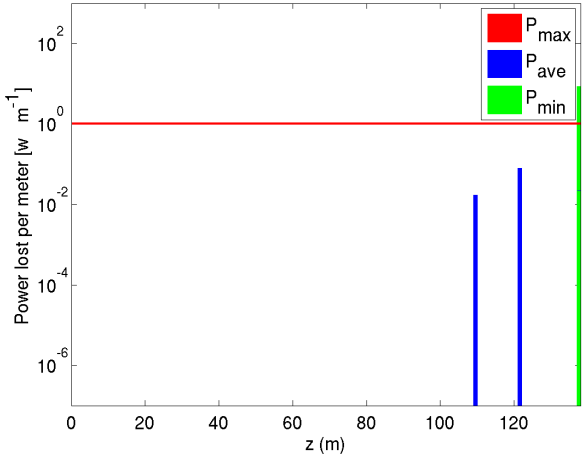


Figure: Losses [W·m^{-1}]



(13) Quads $\delta_x = 500\ \mu$m

Figure: RMS Emittance X

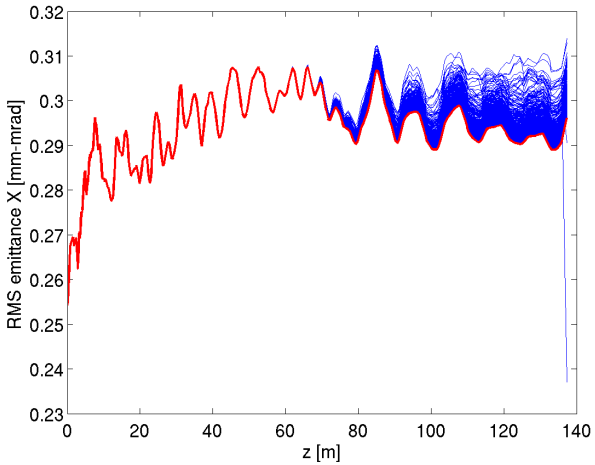


Figure: RMS Emittance Y

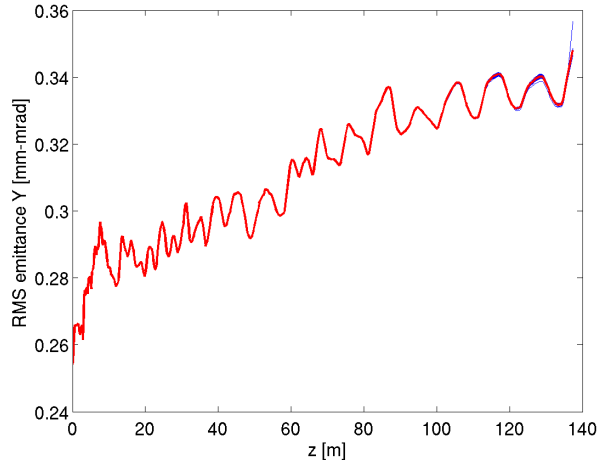


Figure: RMS Emittance Z

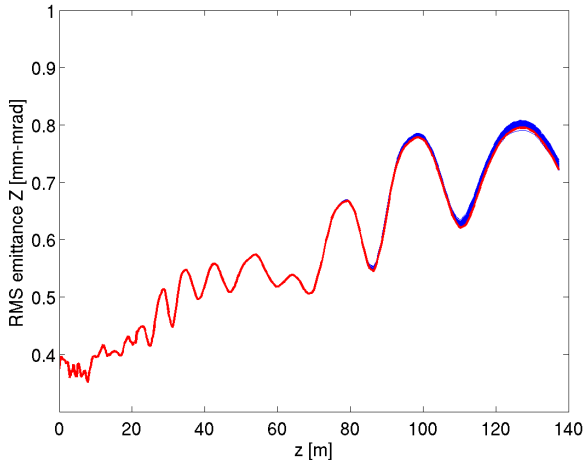
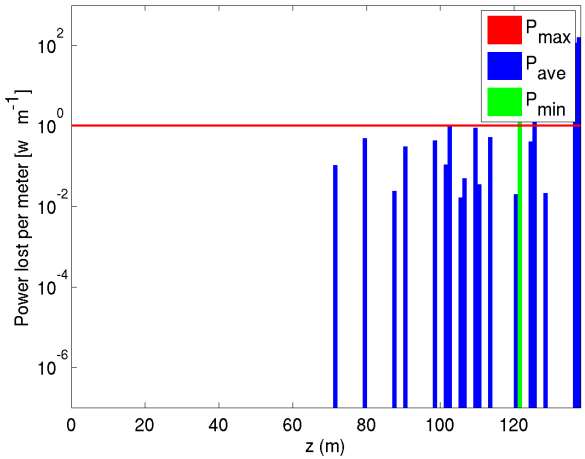


Figure: Losses [W·m^{-1}]



(14) Quads $\delta_x = 750\ \mu$m

Figure: RMS Emittance X

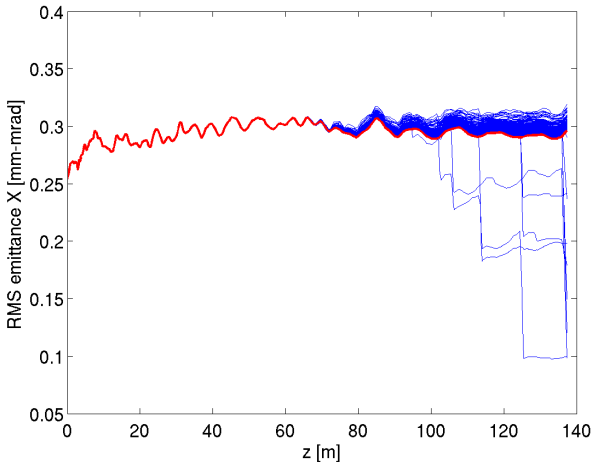


Figure: RMS Emittance Y

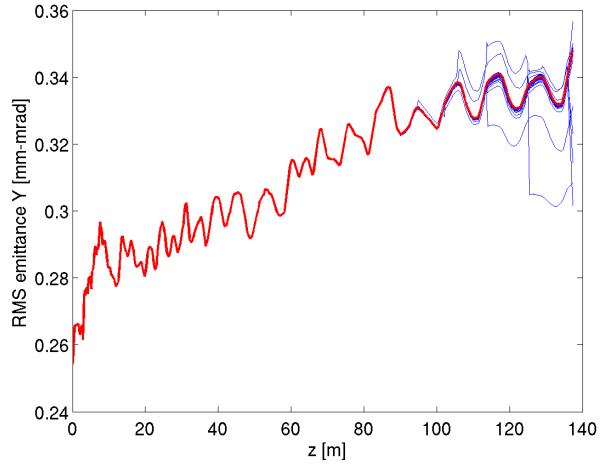


Figure: RMS Emittance Z

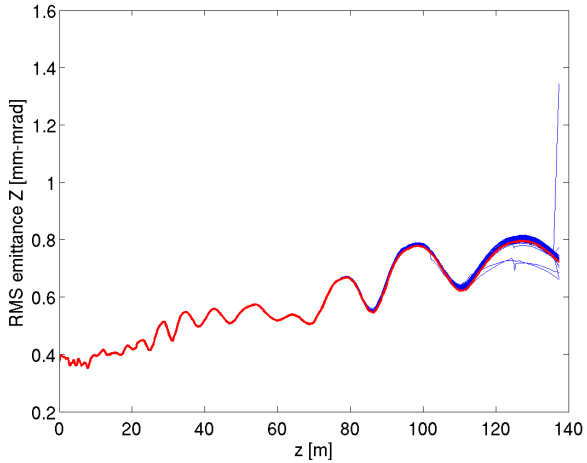
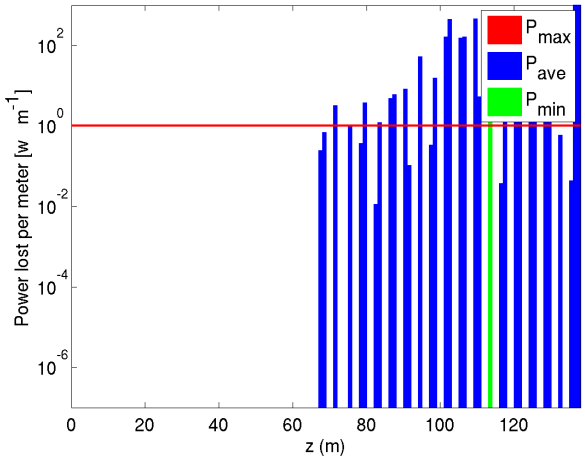


Figure: Losses [W·m^{-1}]



(15) Quads $\delta_x = 1000\ \mu$m

Figure: RMS Emittance X

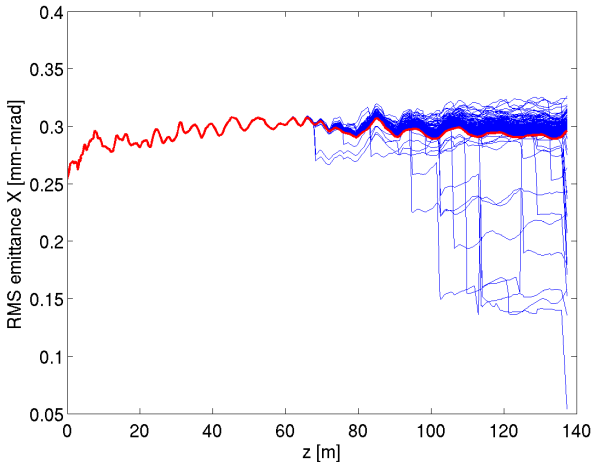


Figure: RMS Emittance Y

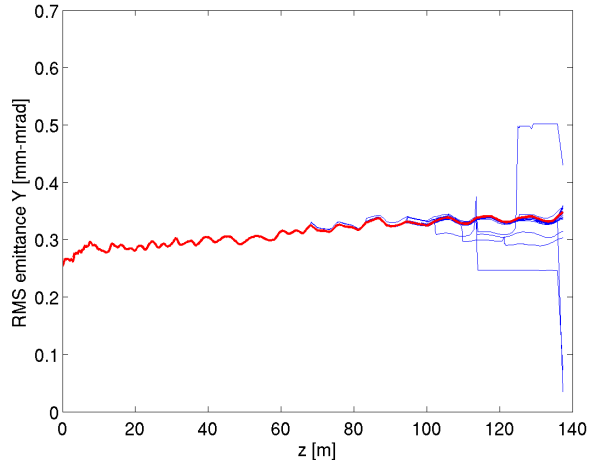


Figure: RMS Emittance Z

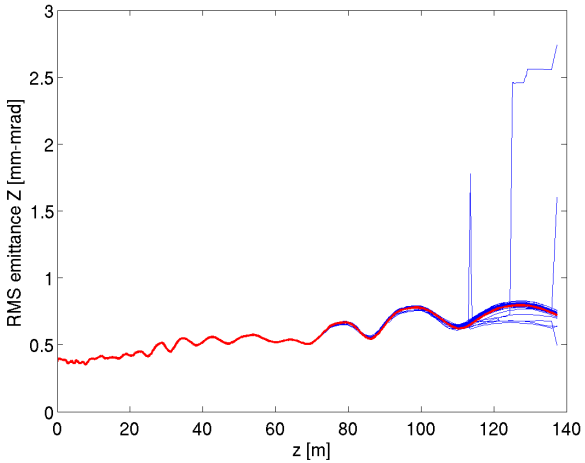
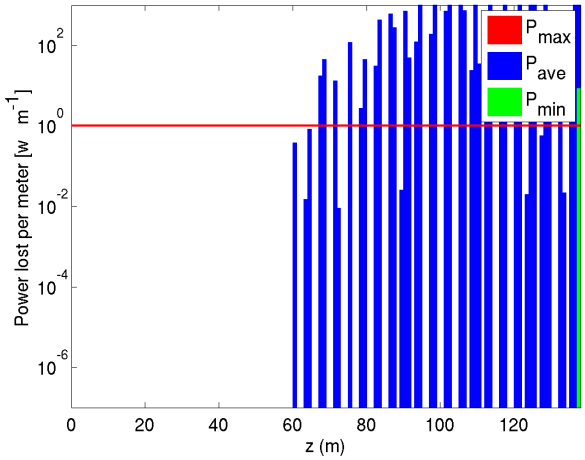


Figure: Losses [W·m^{-1}]



(16) Quads $\phi_z = 1$ mrad

Figure: RMS Emittance X

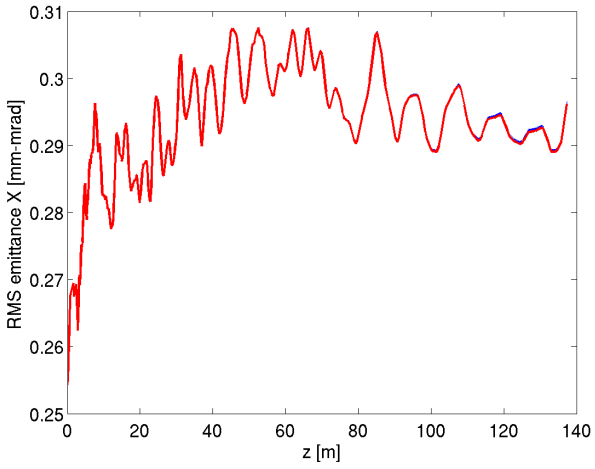


Figure: RMS Emittance Y

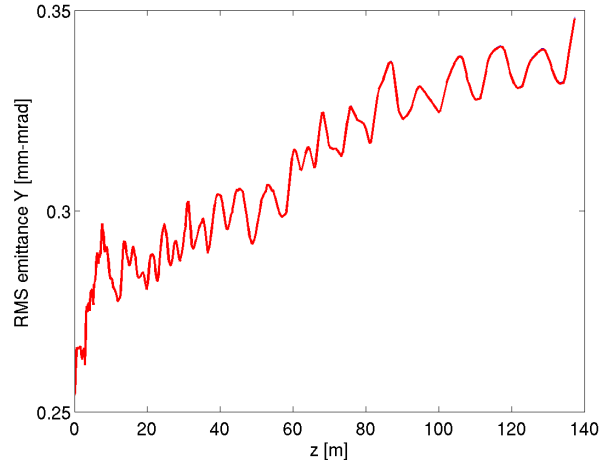


Figure: RMS Emittance Z

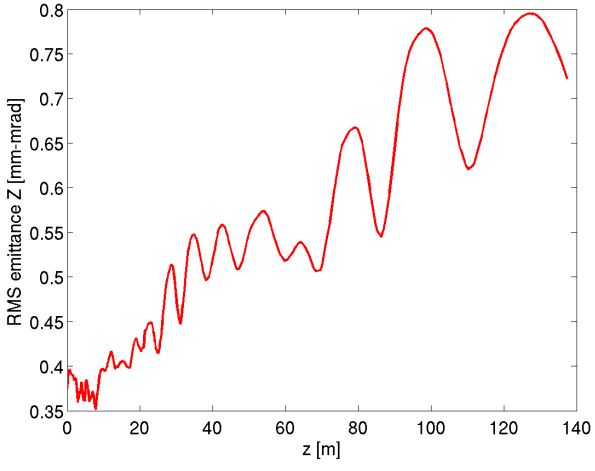
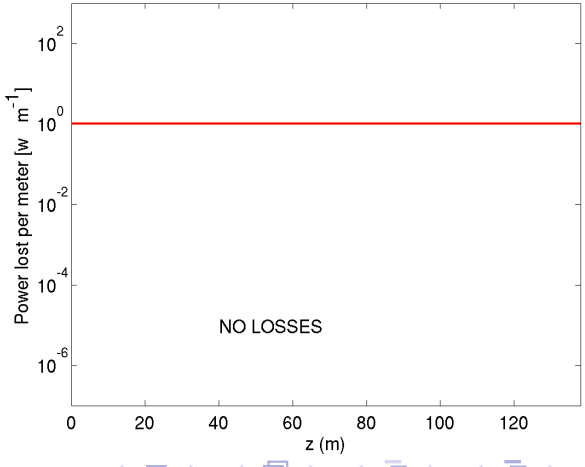


Figure: Losses [W·m^{-1}]



(17) Quads $\phi_z = 2$ mrad

Figure: RMS Emittance X

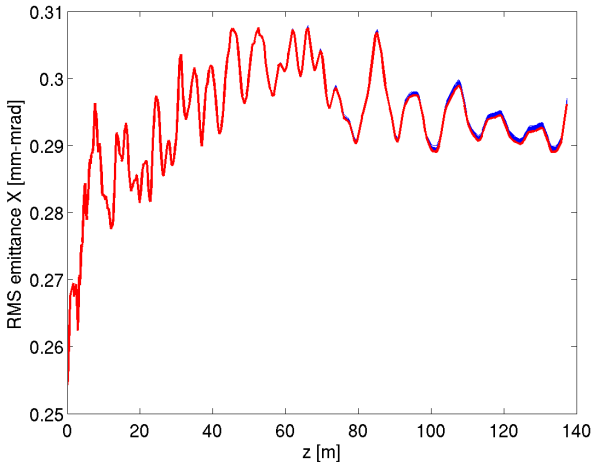


Figure: RMS Emittance Y

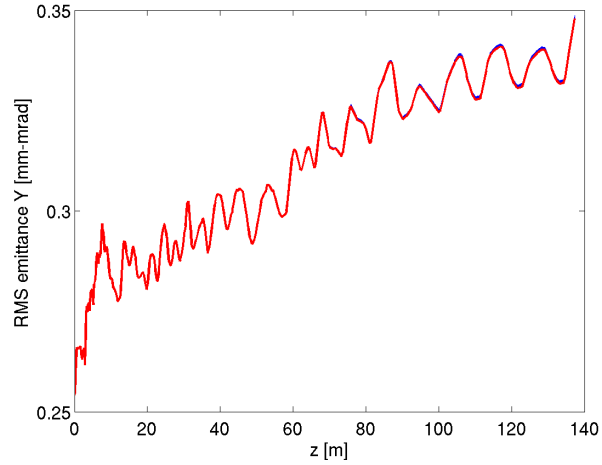


Figure: RMS Emittance Z

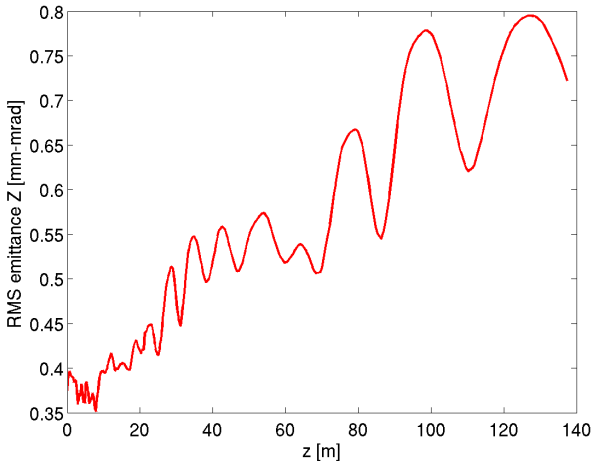
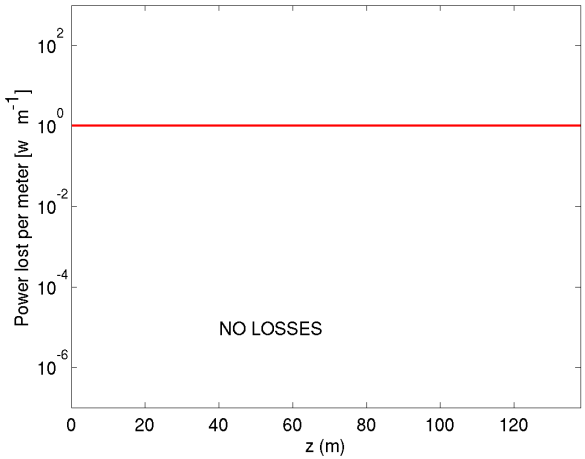


Figure: Losses [W·m^{-1}]



(18) Quads $\phi_z = 5$ mrad

Figure: RMS Emittance X

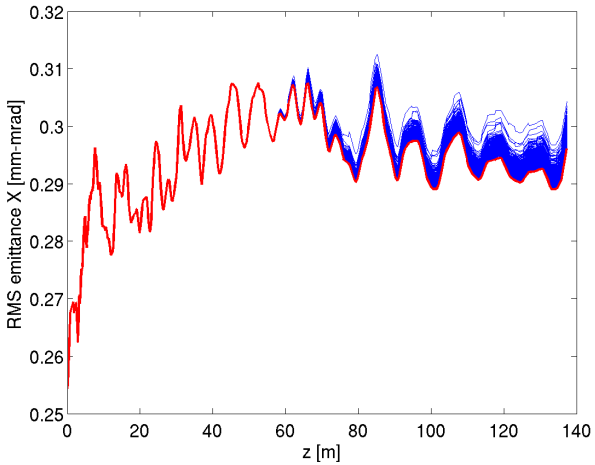


Figure: RMS Emittance Y

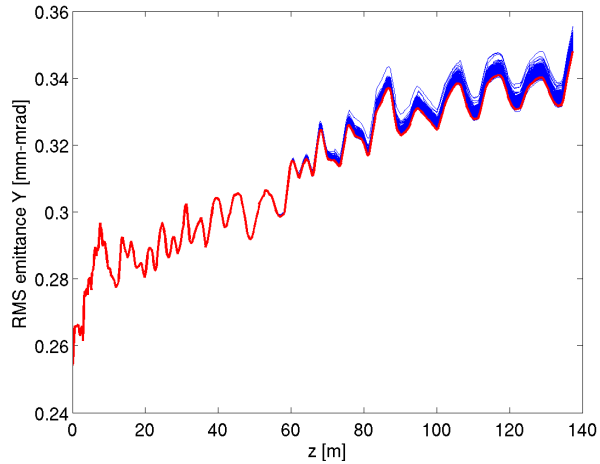


Figure: RMS Emittance Z

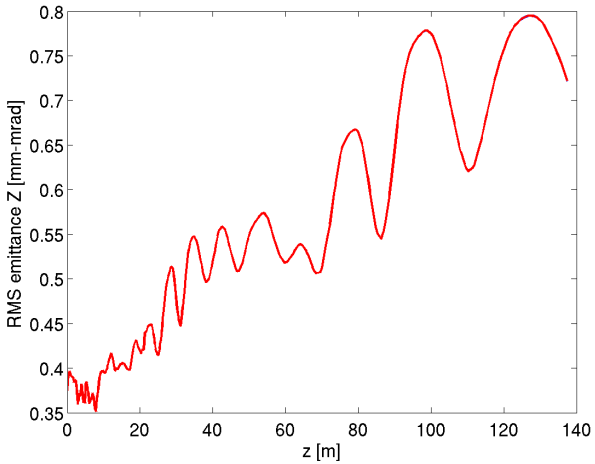
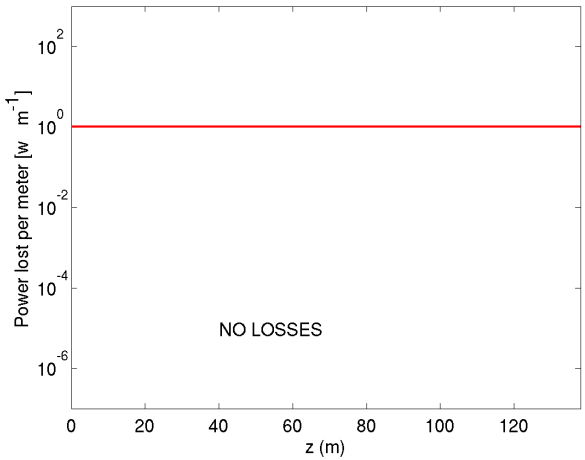


Figure: Losses [W·m^{-1}]



(19) Quads $\phi_z = 7$ mrad

Figure: RMS Emittance X

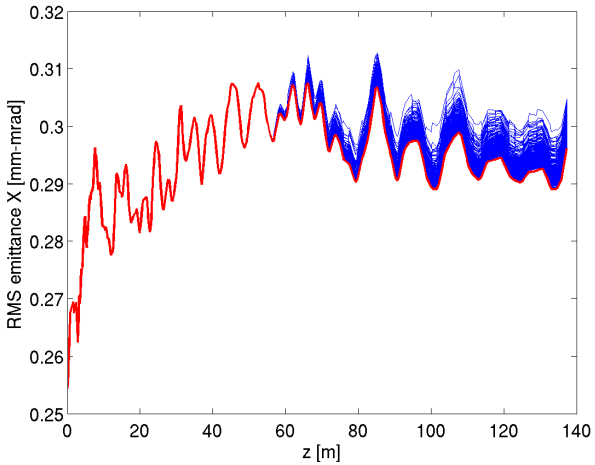


Figure: RMS Emittance Y

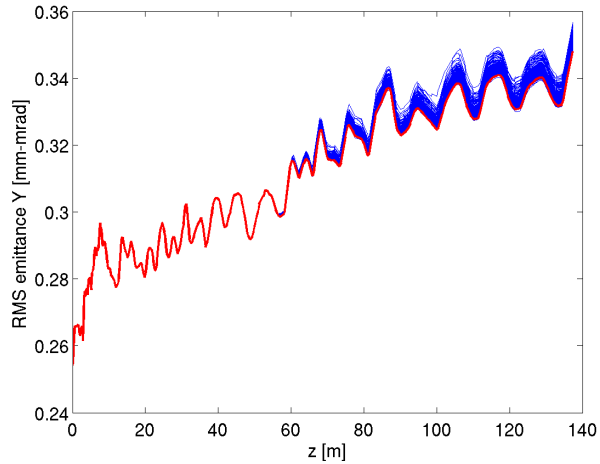


Figure: RMS Emittance Z

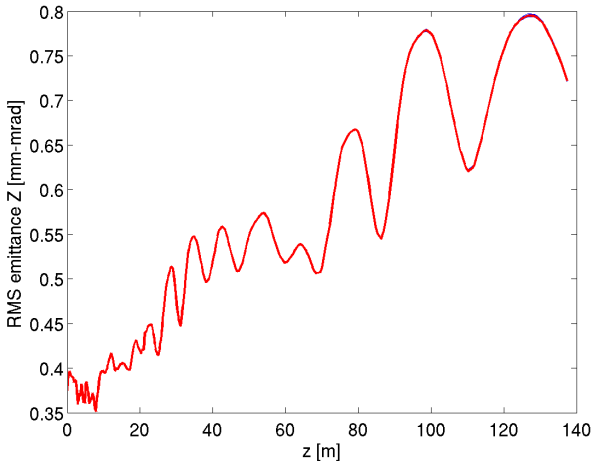
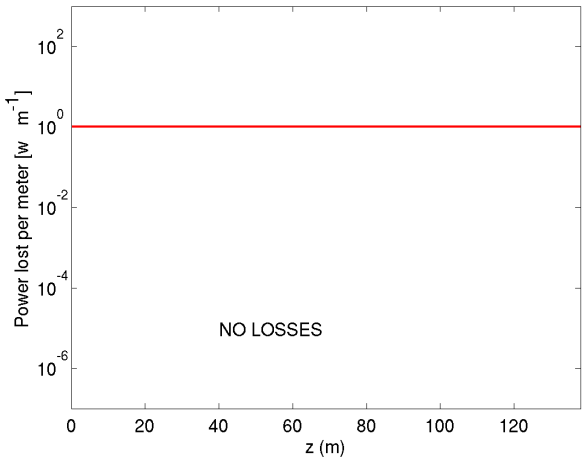


Figure: Losses [W·m^{-1}]



(20) Quads $\phi_z = 10$ mrad

Figure: RMS Emittance X

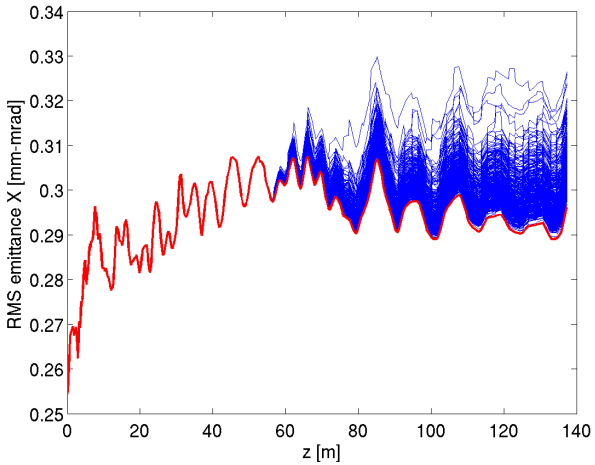


Figure: RMS Emittance Y

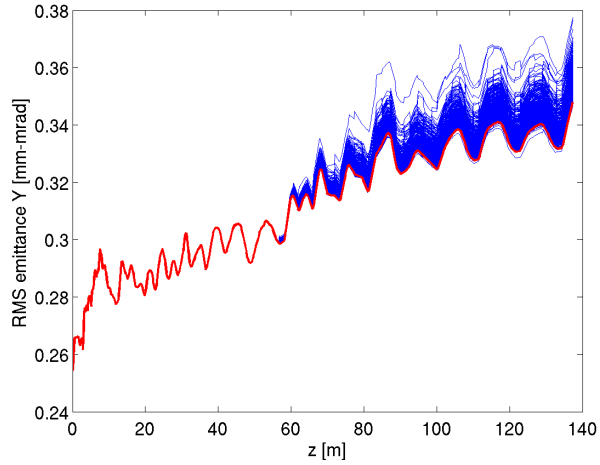


Figure: RMS Emittance Z

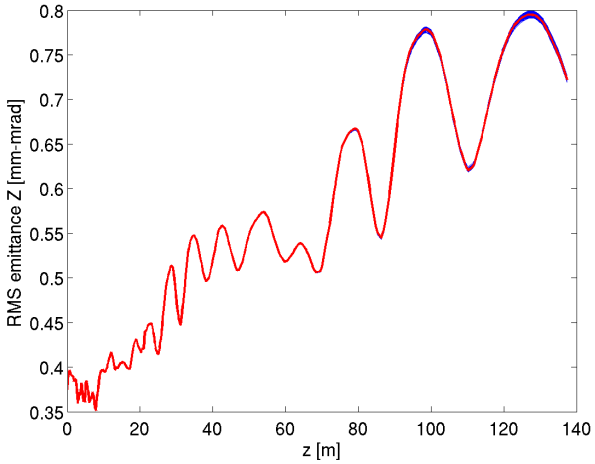
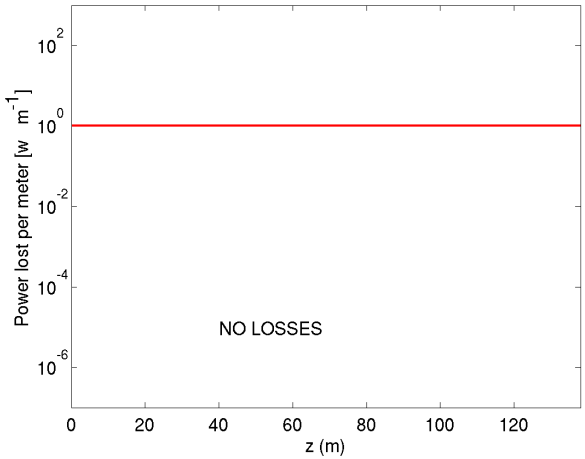


Figure: Losses [W·m^{-1}]



(21) Cavities Phase $\delta\phi_{dynamic} = 0.5$ deg

Figure: RMS Emittance X

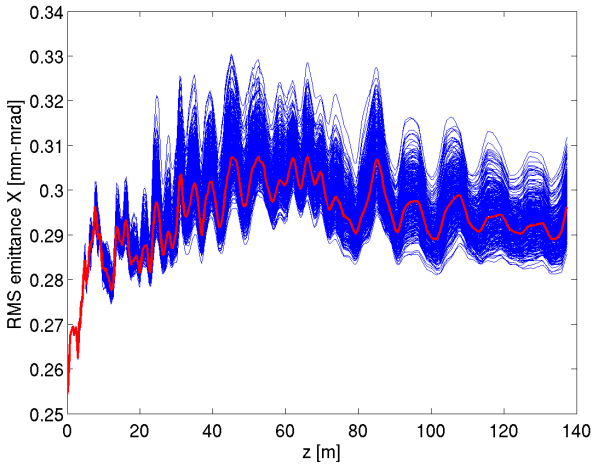


Figure: RMS Emittance Y

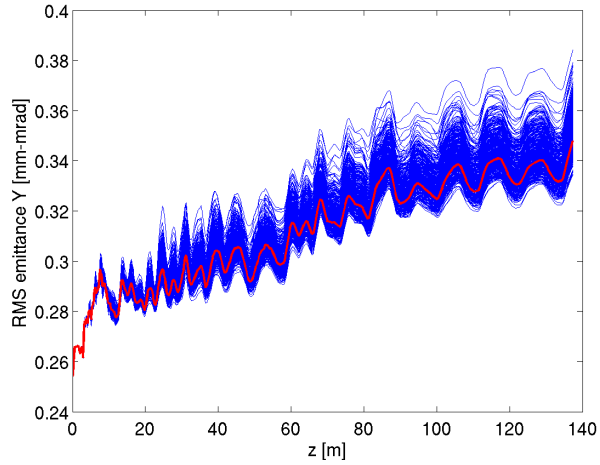


Figure: RMS Emittance Z

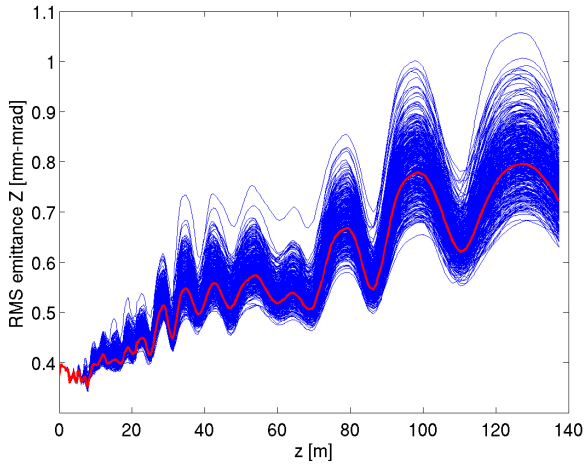
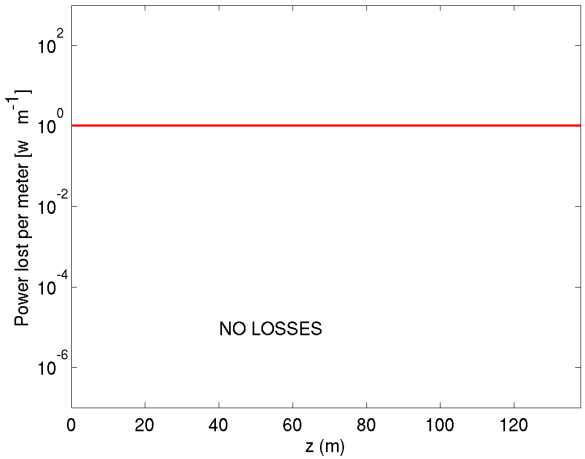


Figure: Losses [W·m^{-1}]



(22) Cavities Phase $\delta\phi_{dynamic} = 1.0$ deg

Figure: RMS Emittance X

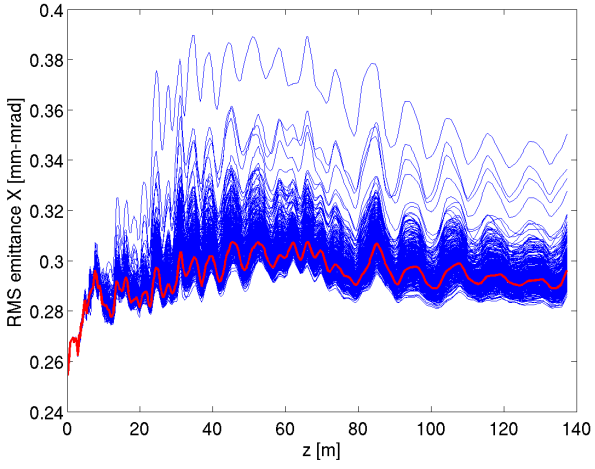


Figure: RMS Emittance Y

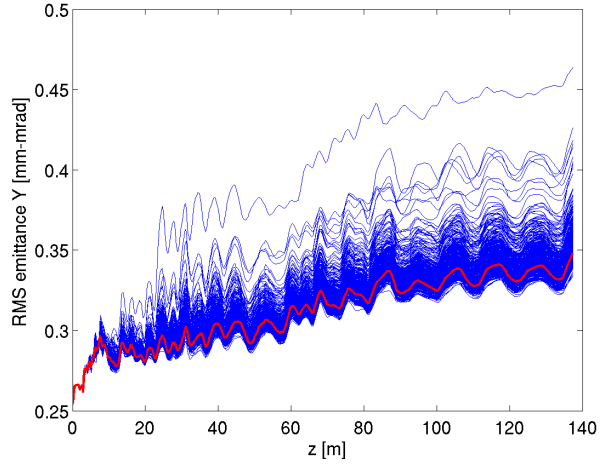


Figure: RMS Emittance Z

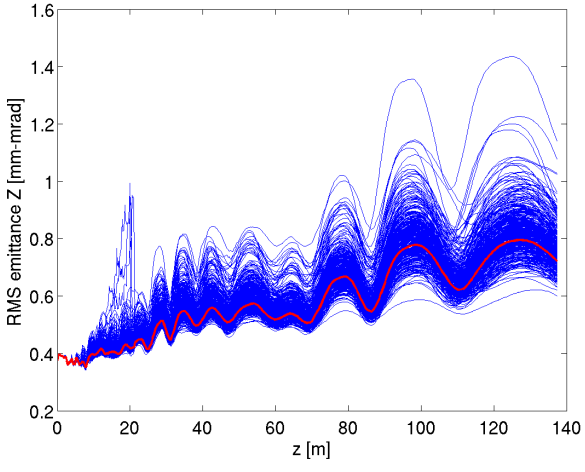
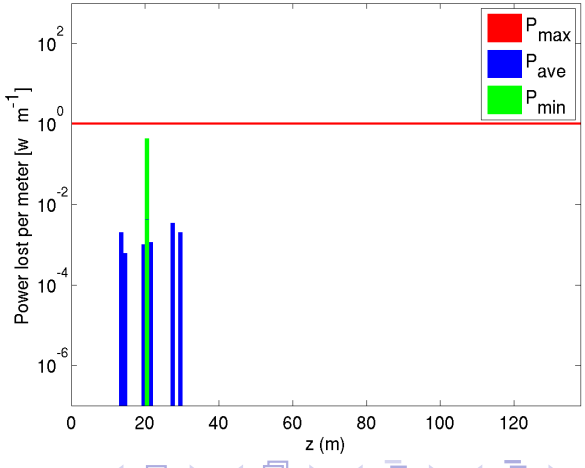


Figure: Losses [W·m^{-1}]



(23) Cavities Phase $\delta\phi_{dynamic} = 1.5$ deg

Figure: RMS Emittance X

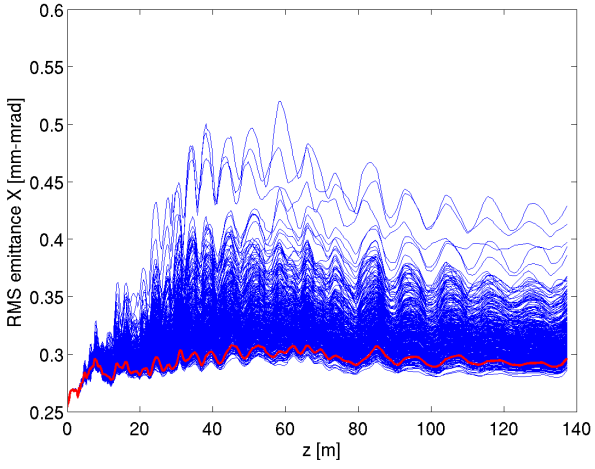


Figure: RMS Emittance Y

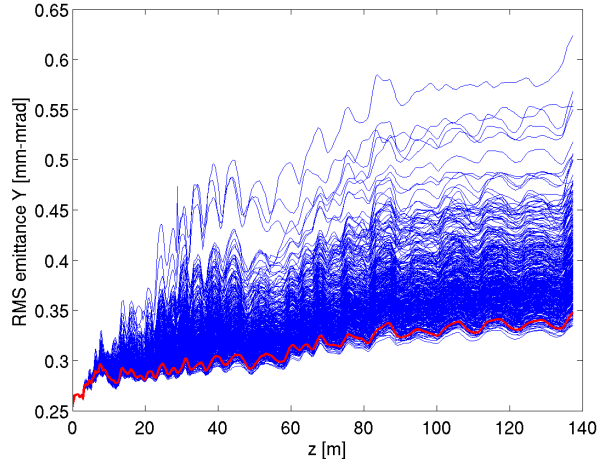


Figure: RMS Emittance Z

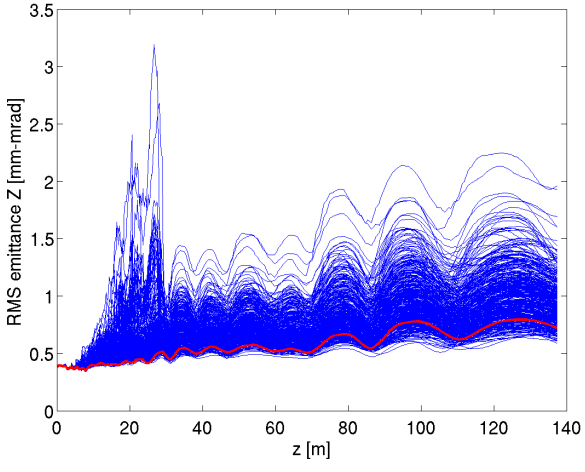
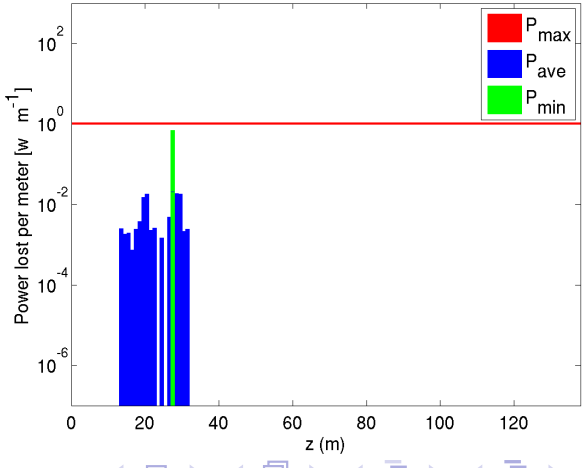


Figure: Losses [W·m^{-1}]



(24) Cavities Phase $\delta\phi_{dynamic} = 2.0$ deg

Figure: RMS Emittance X

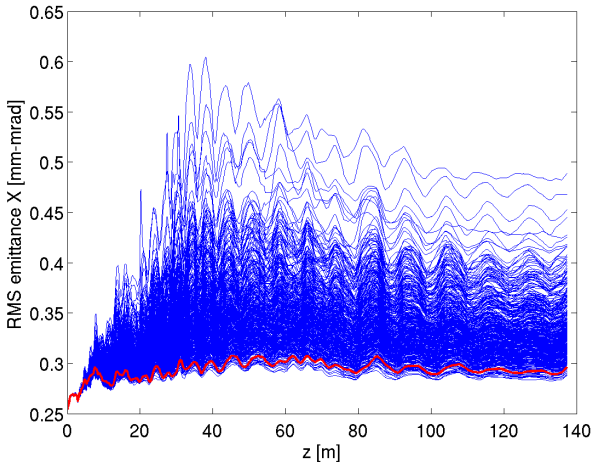


Figure: RMS Emittance Y

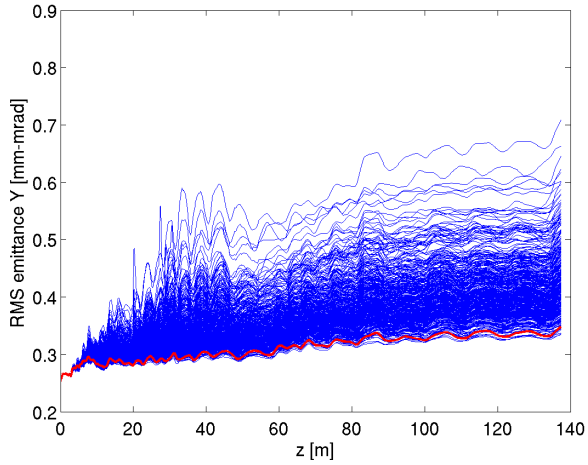


Figure: RMS Emittance Z

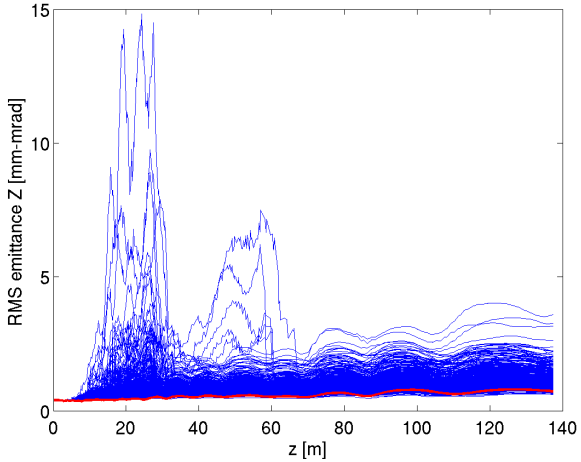
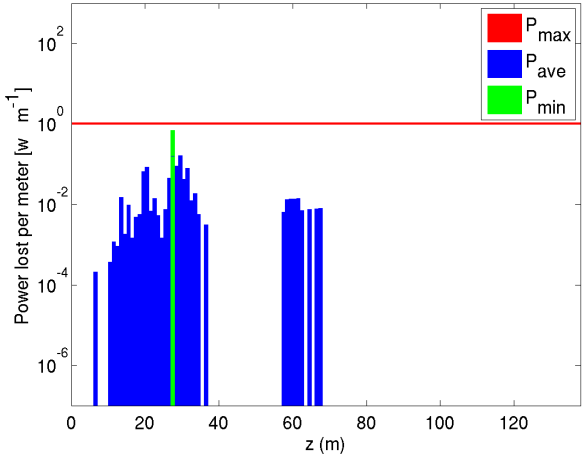


Figure: Losses [W·m^{-1}]



(25) Cavities Phase $\delta\phi_{dynamic} = 2.5$ deg

Figure: RMS Emittance X

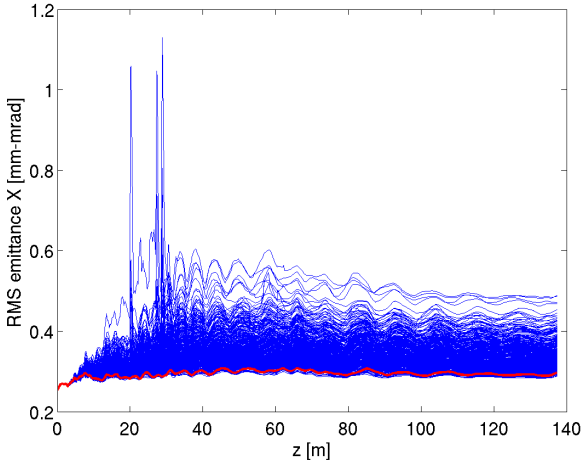


Figure: RMS Emittance Y

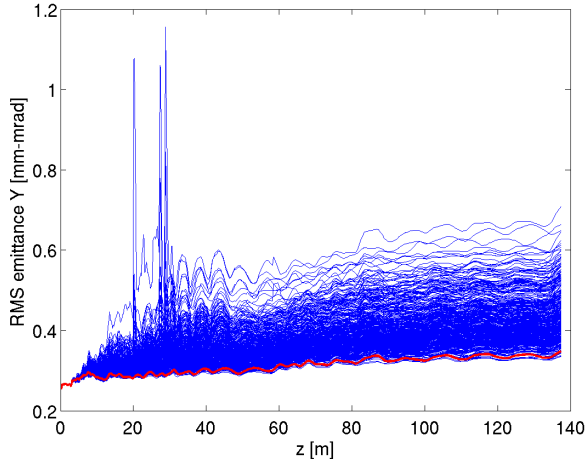


Figure: RMS Emittance Z

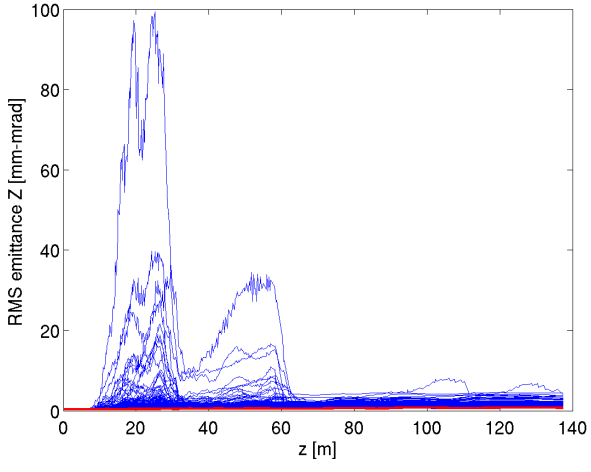
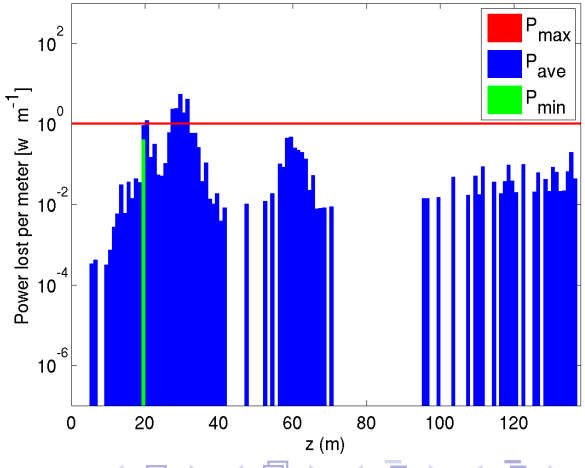


Figure: Losses [W·m^{-1}]



(26) Cavities Phase $\delta\phi_{static} = 0.5$ deg

Figure: RMS Emittance X

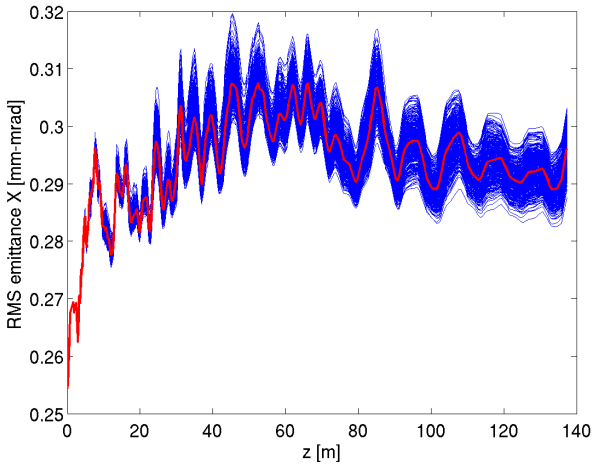


Figure: RMS Emittance Y

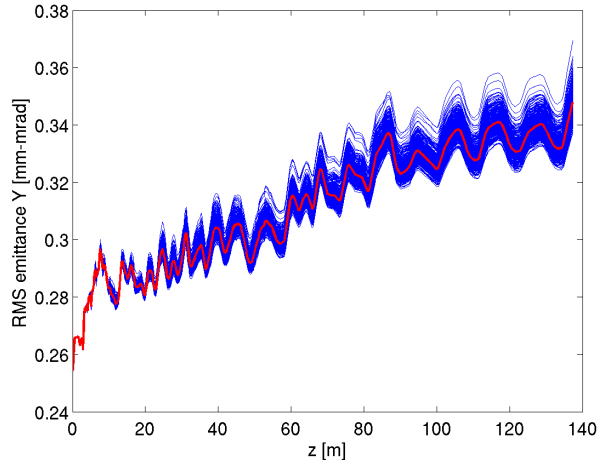


Figure: RMS Emittance Z

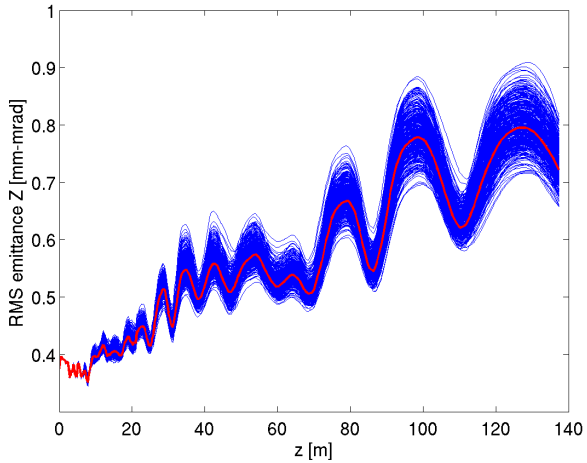
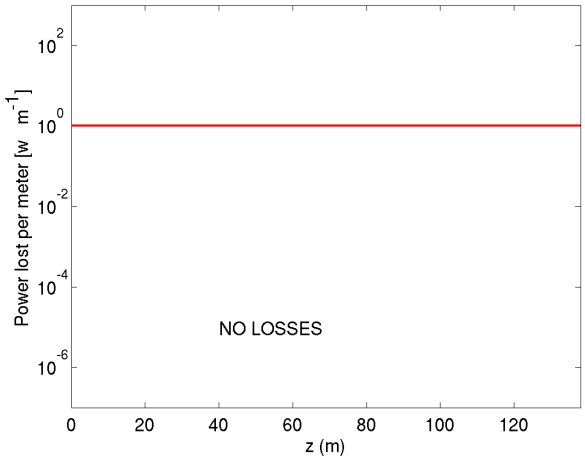


Figure: Losses [W·m^{-1}]



(27) Cavities Phase $\delta\phi_{static} = 1.0$ deg

Figure: RMS Emittance X

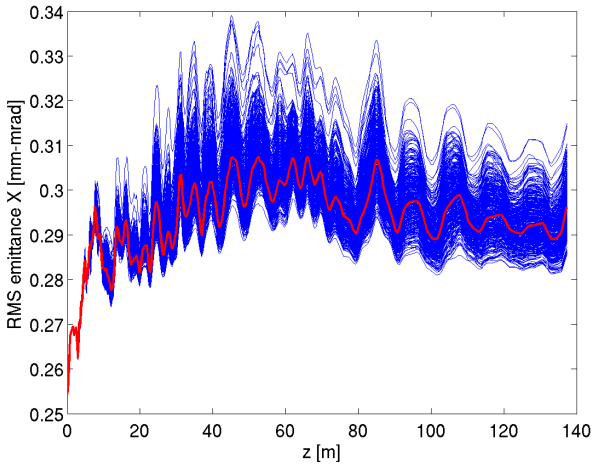


Figure: RMS Emittance Y

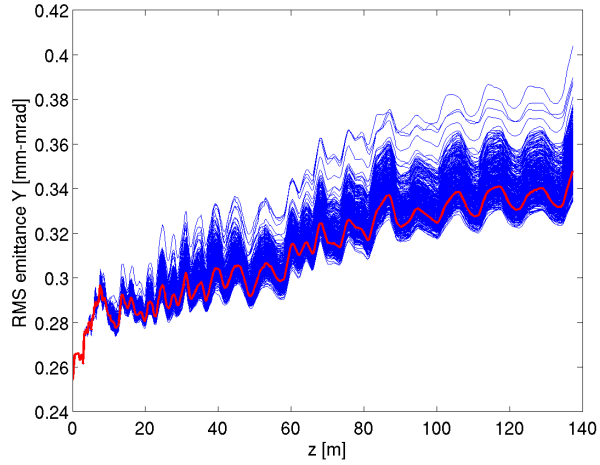


Figure: RMS Emittance z

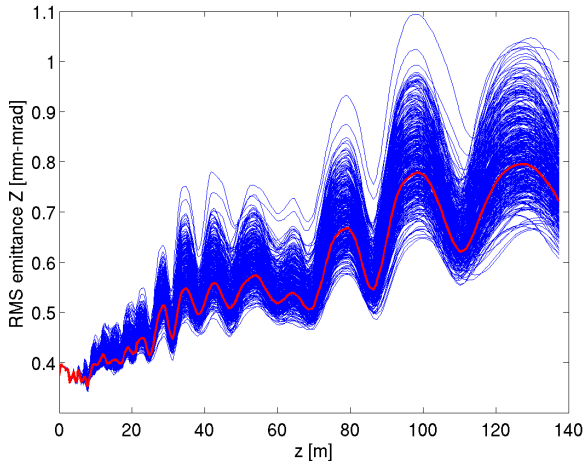
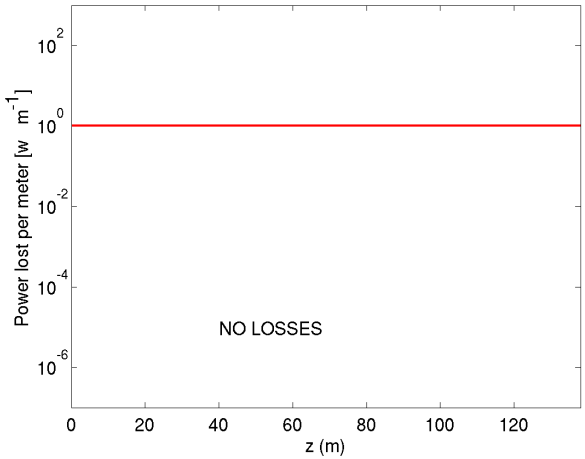


Figure: Losses [W·m^{-1}]



(28) Cavities Phase $\delta\phi_{static} = 1.5$ deg

Figure: RMS Emittance X

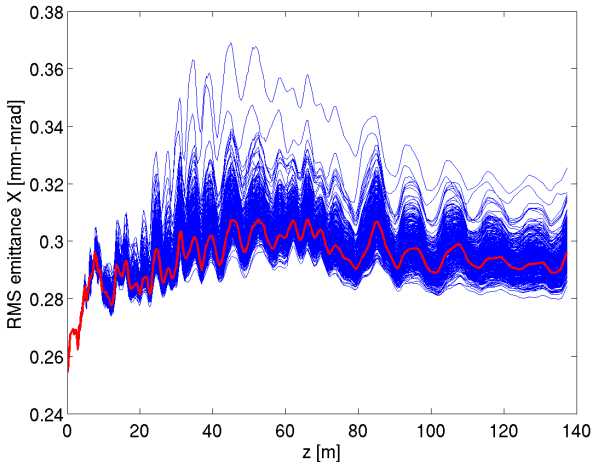


Figure: RMS Emittance Y

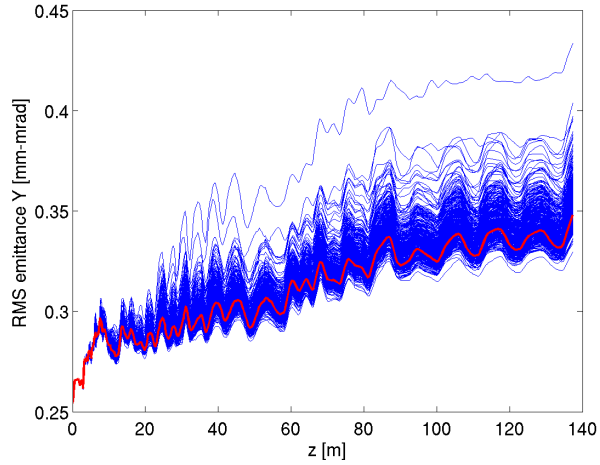


Figure: RMS Emittance Z

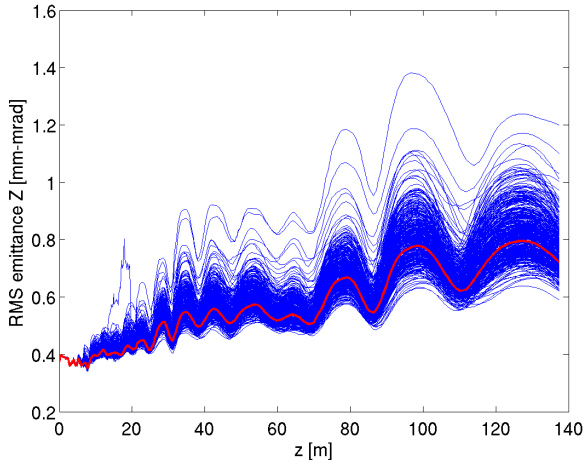
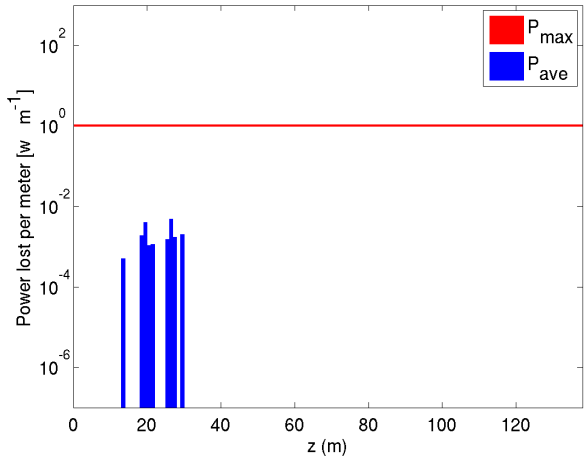


Figure: Losses [W·m^{-1}]



(29) Cavities Phase $\delta\phi_{static} = 2.0$ deg

Figure: RMS Emittance X

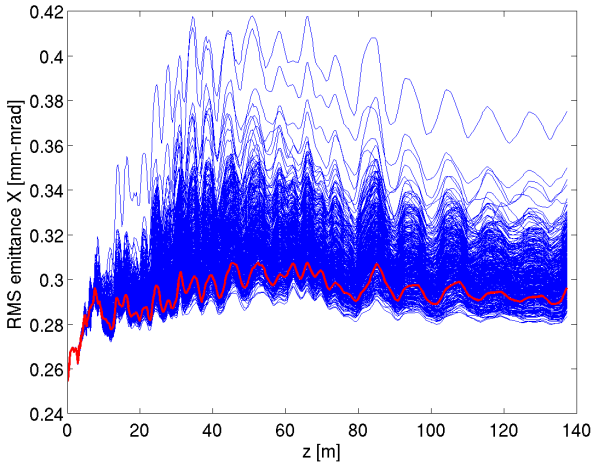


Figure: RMS Emittance Y

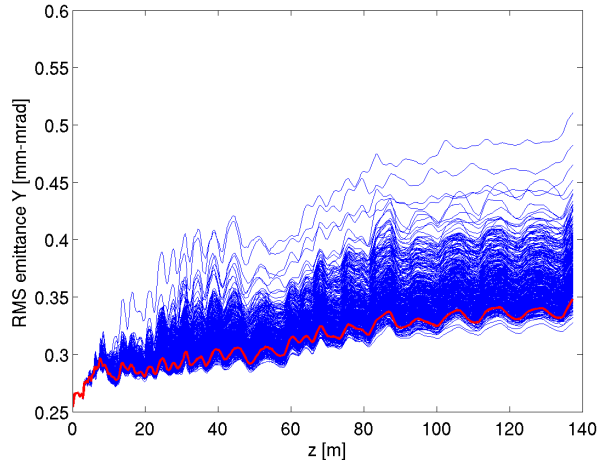


Figure: RMS Emittance Z

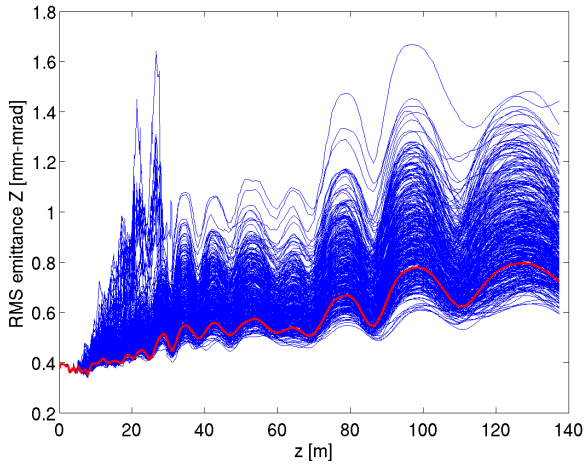
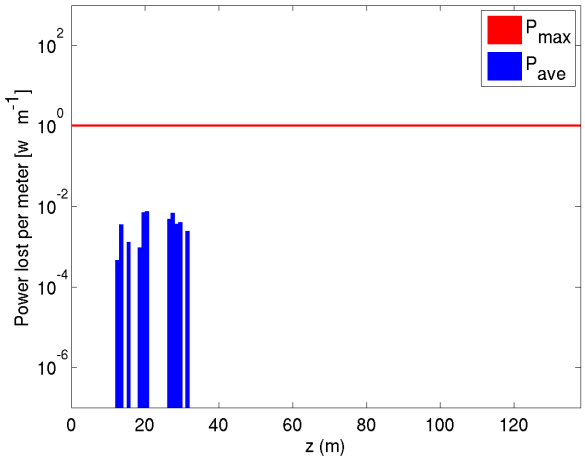


Figure: Losses [W·m^{-1}]



(30) Cavities Phase $\delta\phi_{static} = 2.5$ deg

Figure: RMS Emittance X

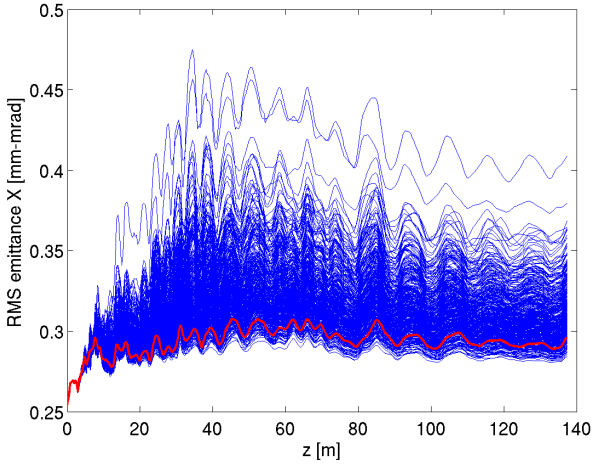


Figure: RMS Emittance Y

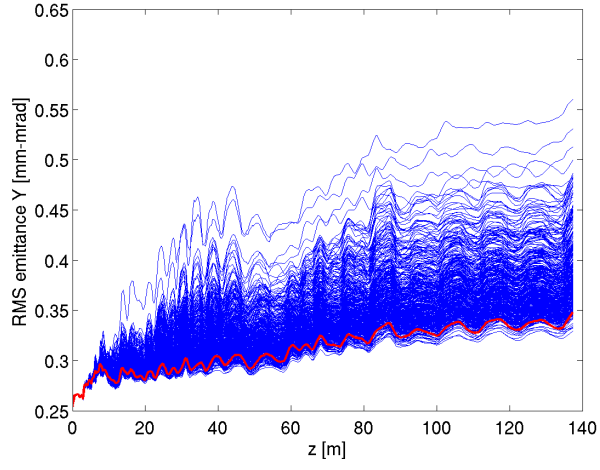


Figure: RMS Emittance Z

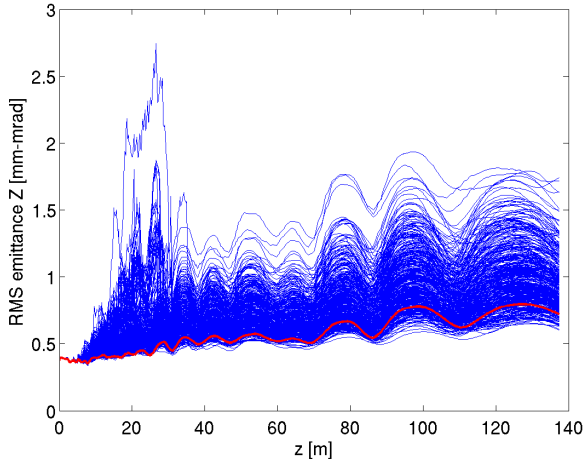
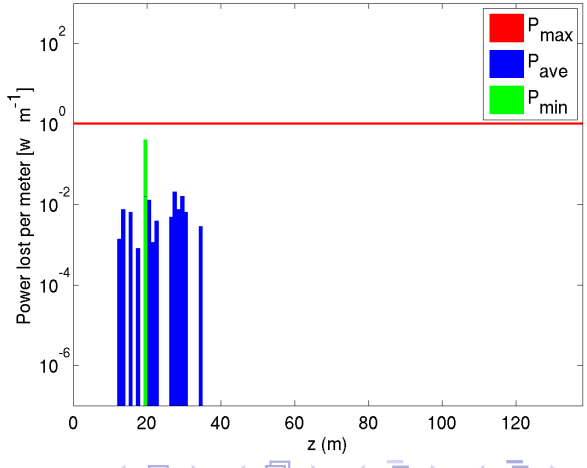


Figure: Losses [W·m^{-1}]



(31) Cavities Field $\delta F_{dynamic} = 0.5$ %

Figure: RMS Emittance X

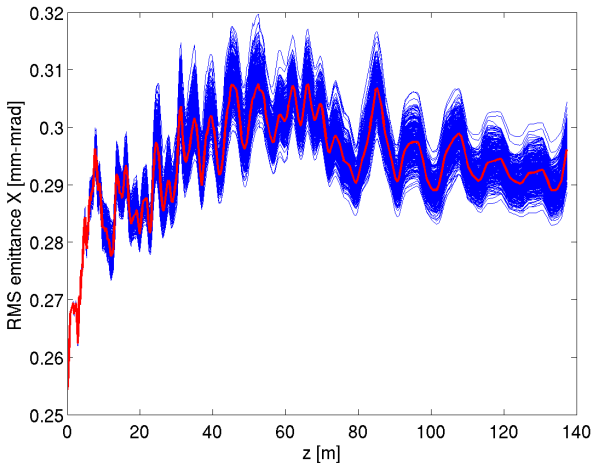


Figure: RMS Emittance Y

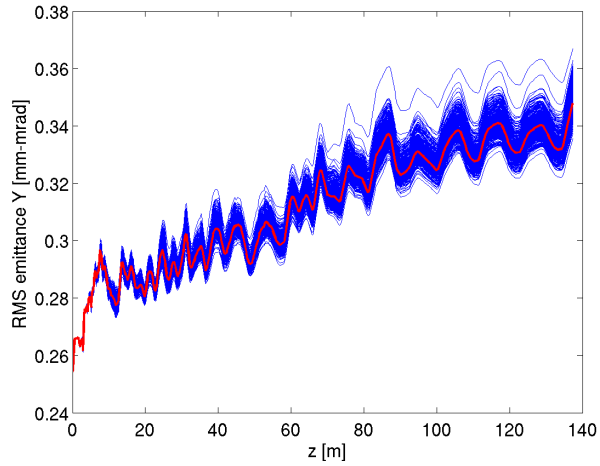


Figure: RMS Emittance Z

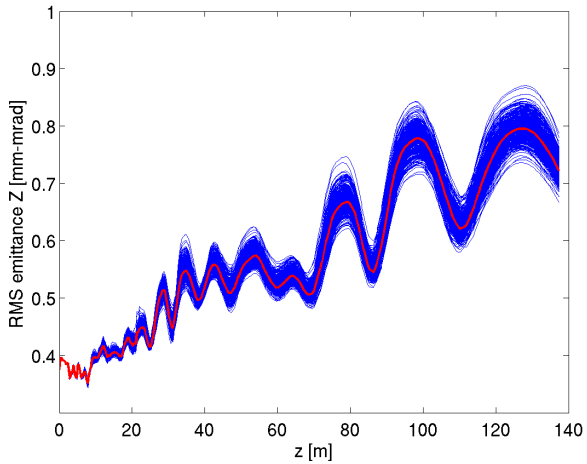
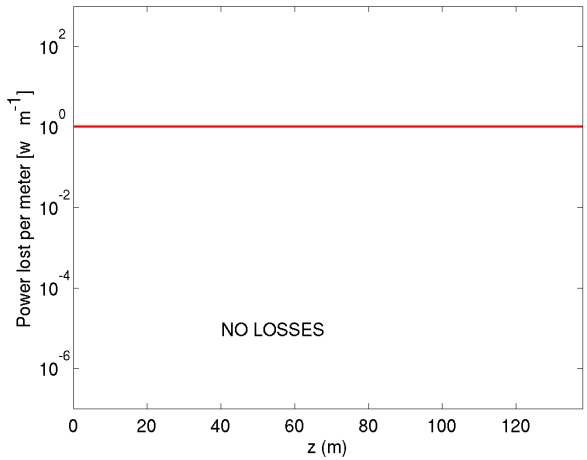


Figure: Losses [W·m^{-1}]



(32) Cavities Field $\delta F_{dynamic} = 1.0$ %

Figure: RMS Emittance X

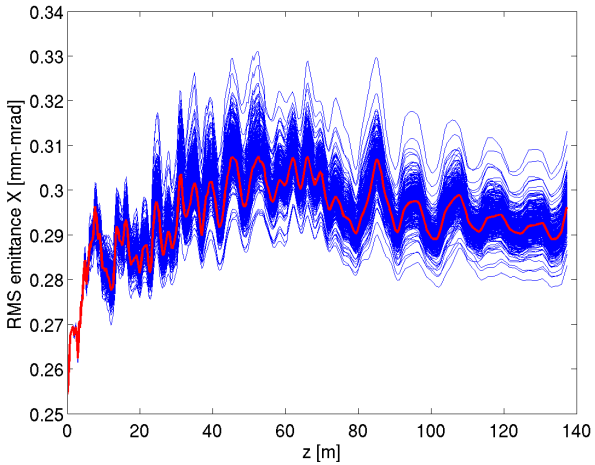


Figure: RMS Emittance Y

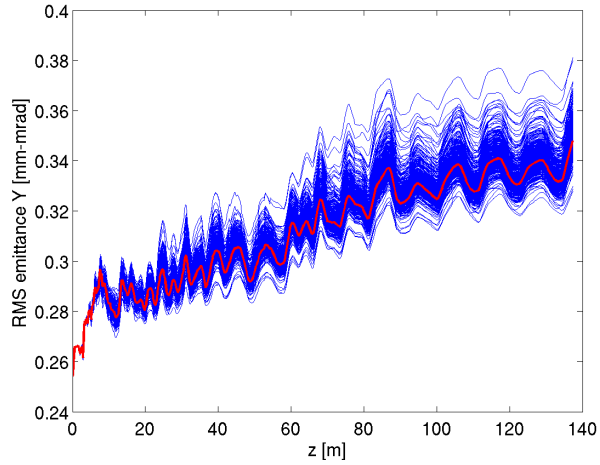


Figure: RMS Emittance Z

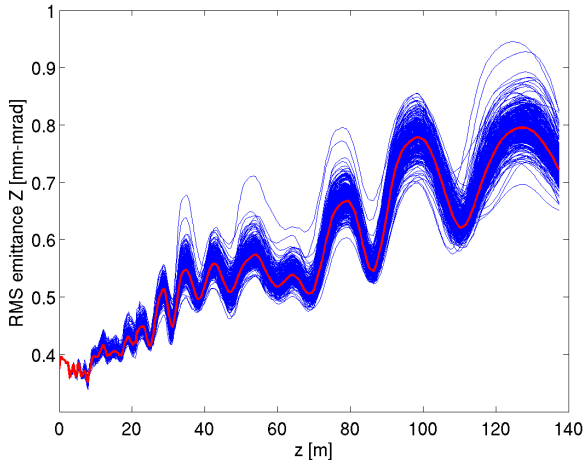
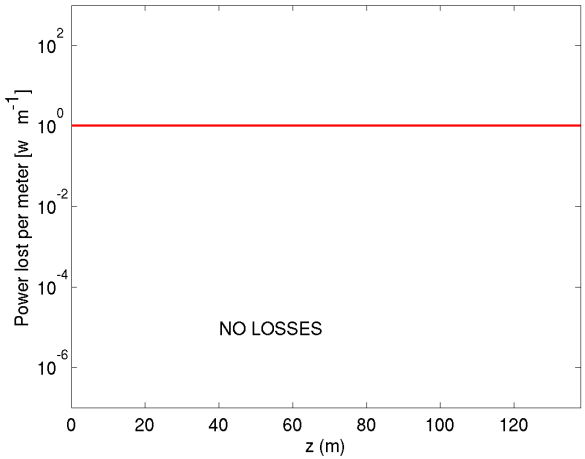


Figure: Losses [W·m^{-1}]



(33) Cavities Field $\delta F_{dynamic} = 1.5\ \%$

Figure: RMS Emittance X

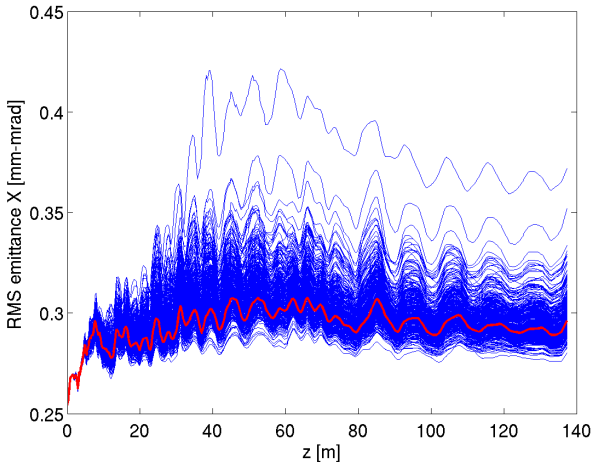


Figure: RMS Emittance Y

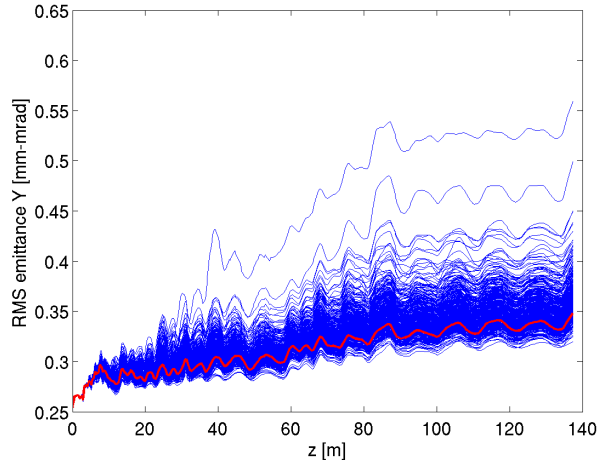


Figure: RMS Emittance Z

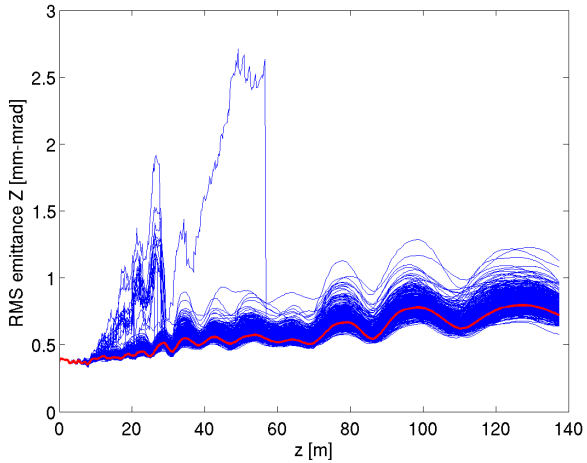
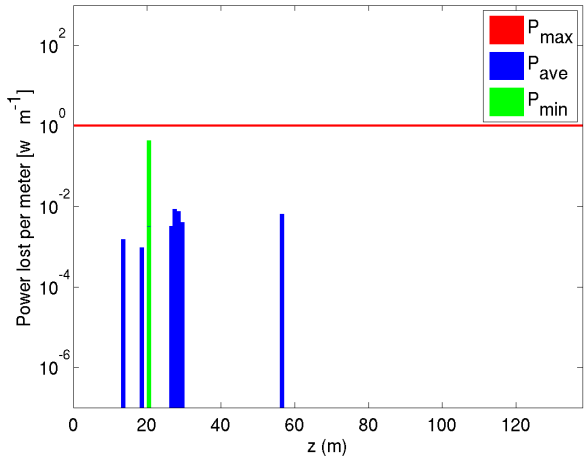


Figure: Losses [W·m^{-1}]



(34) Cavities Field $\delta F_{dynamic} = 2.0$ %

Figure: RMS Emittance X

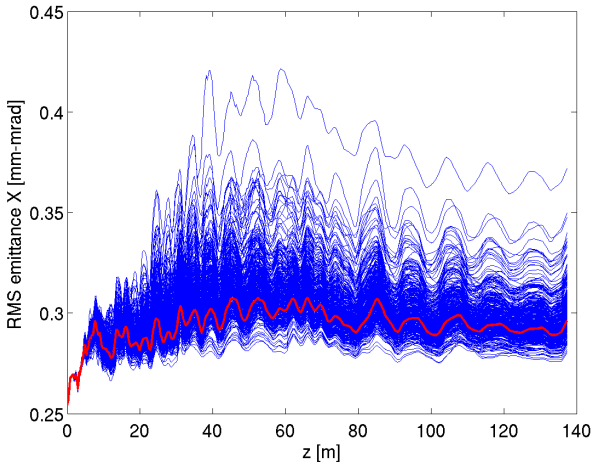


Figure: RMS Emittance Y

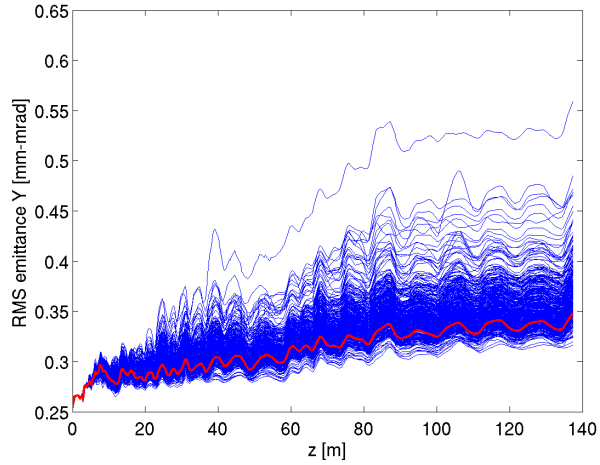


Figure: RMS Emittance Z

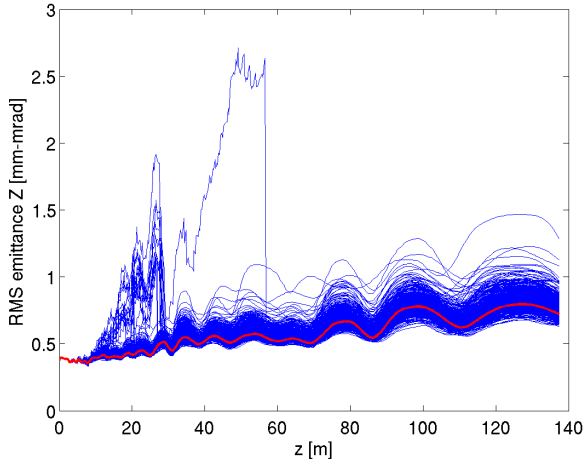
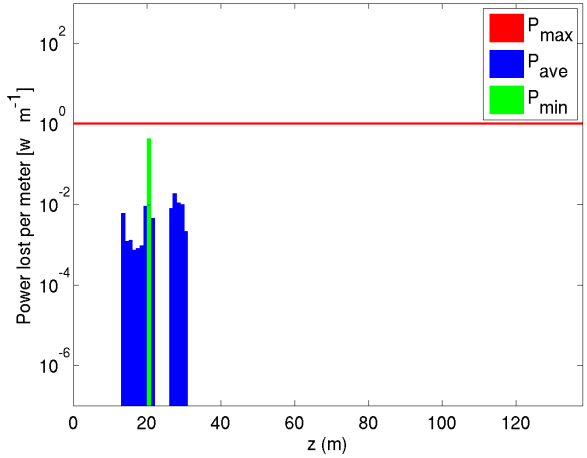


Figure: Losses [W·m^{-1}]



(35) Cavities Field $\delta F_{dynamic} = 2.5\ \%$

Figure: RMS Emittance X

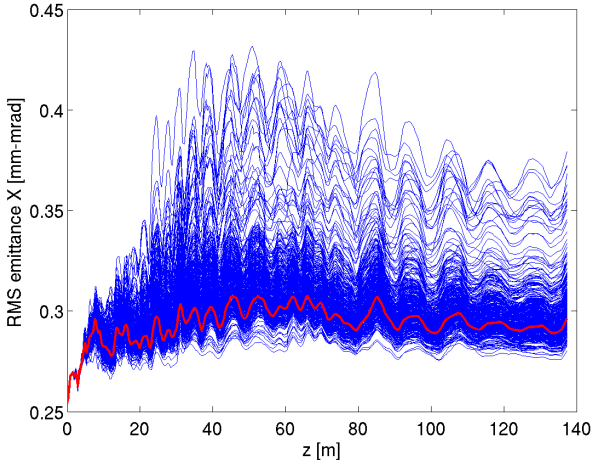


Figure: RMS Emittance Y

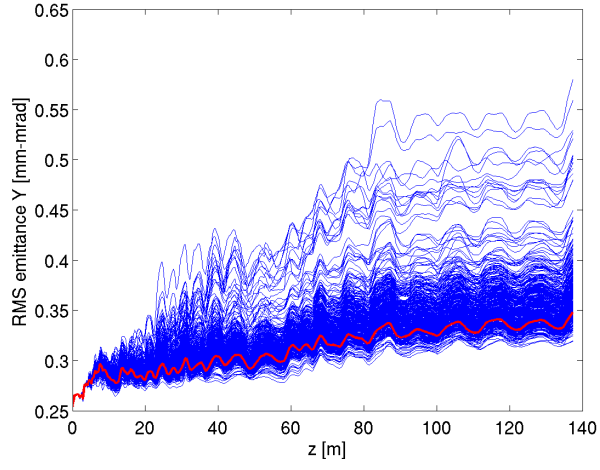


Figure: RMS Emittance Z

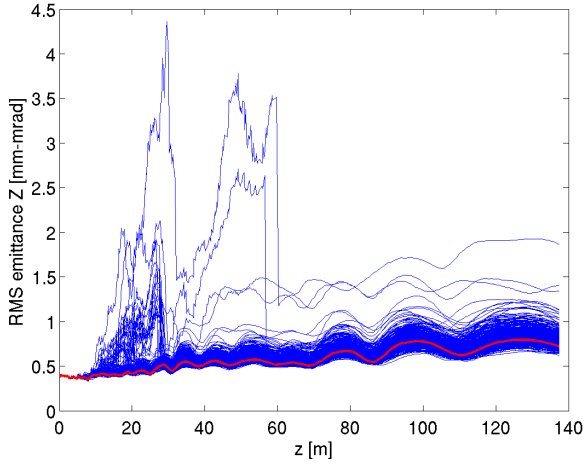
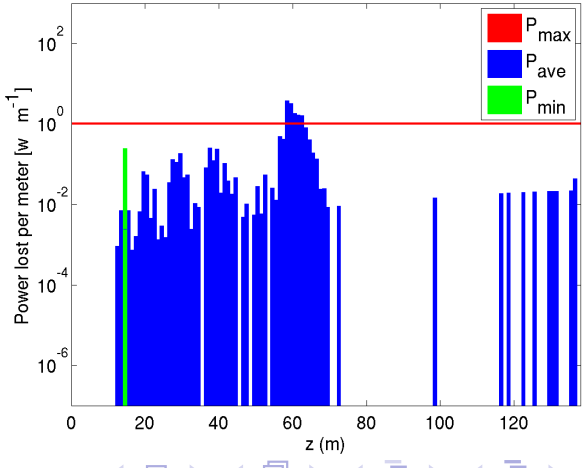


Figure: Losses [W·m^{-1}]



(36) Cavities Field $\delta F_{static} = 0.5$ %

Figure: RMS Emittance X

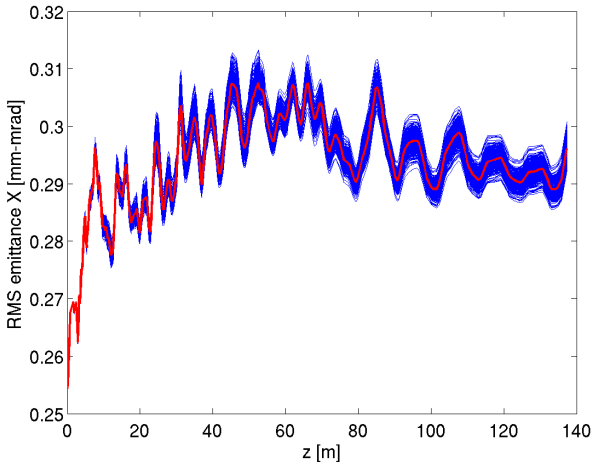


Figure: RMS Emittance Y

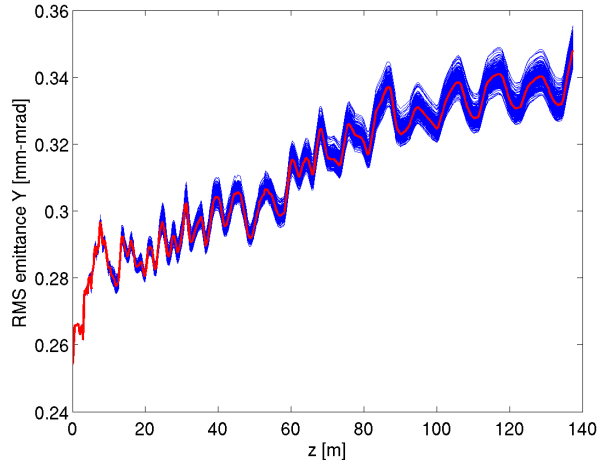


Figure: RMS Emittance Z

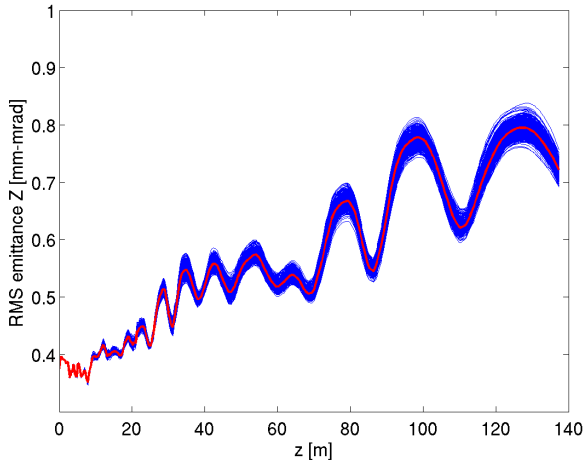
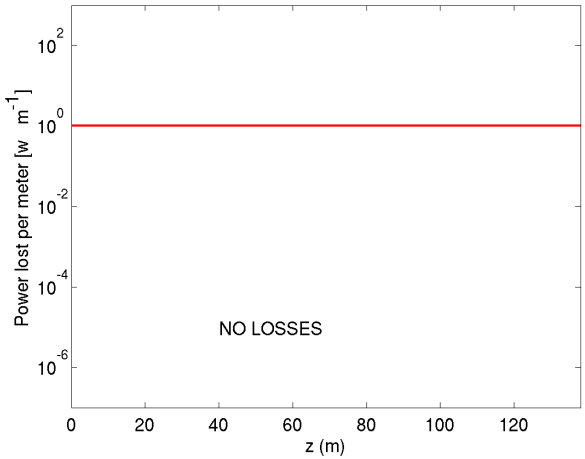


Figure: Losses [W·m^{-1}]



(37) Cavities Field $\delta F_{static} = 1.0$ %

Figure: RMS Emittance X

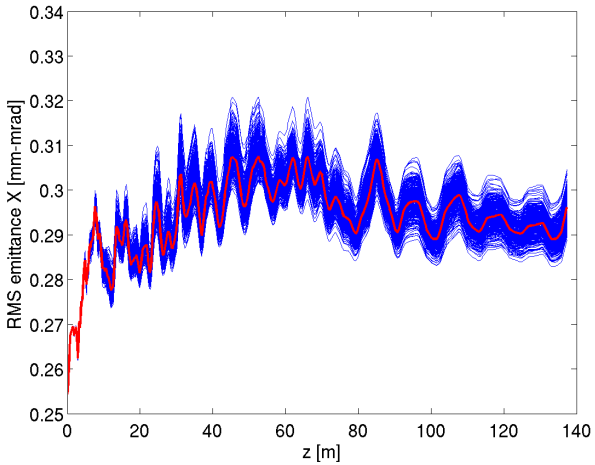


Figure: RMS Emittance Y

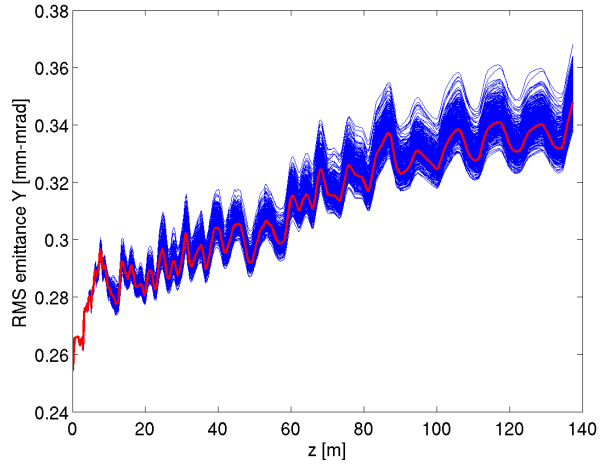


Figure: RMS Emittance Z

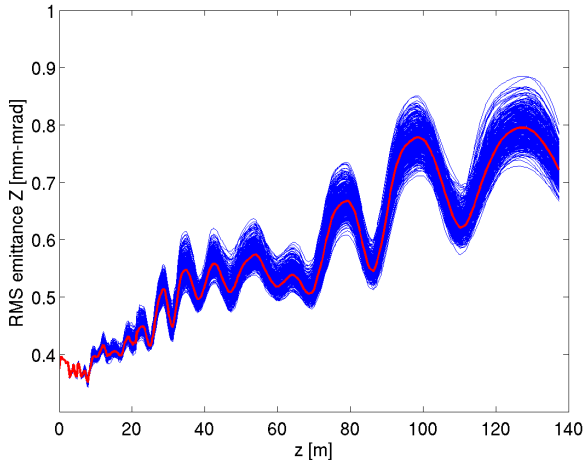
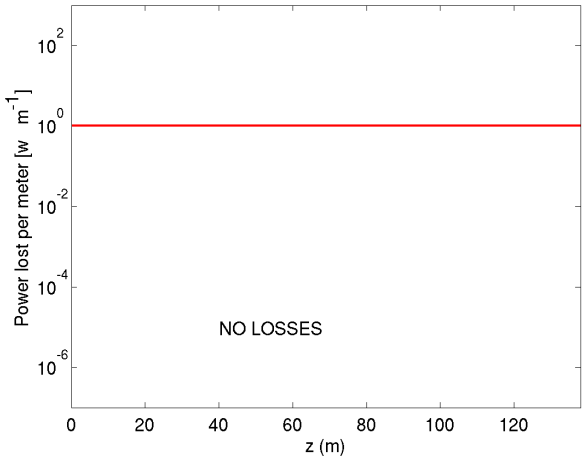


Figure: Losses [W·m^{-1}]



(38) Cavities Field $\delta F_{static} = 1.5\ \%$

Figure: RMS Emittance X

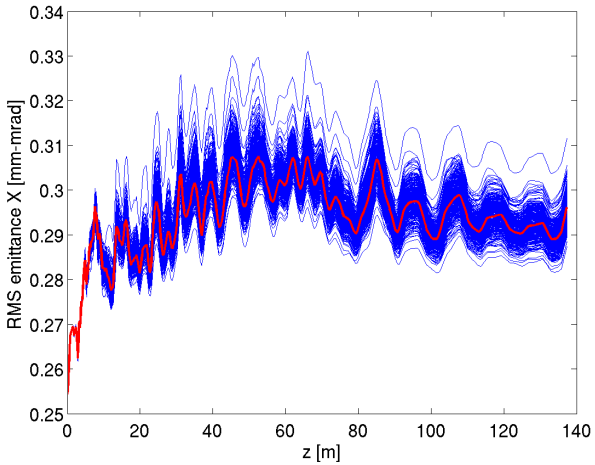


Figure: RMS Emittance Y

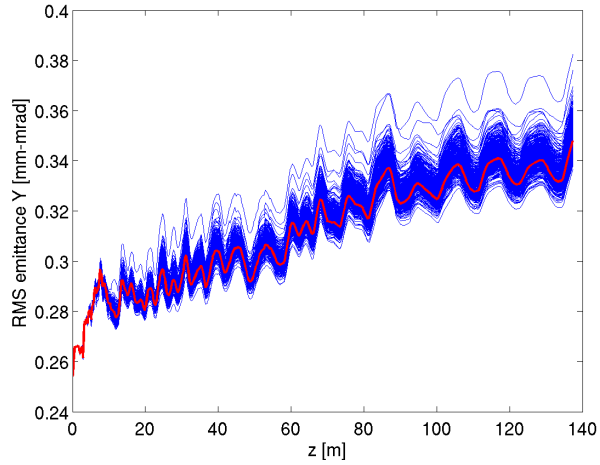


Figure: RMS Emittance Z

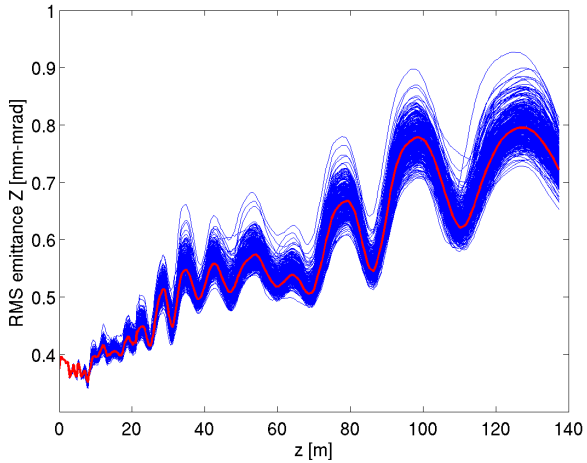
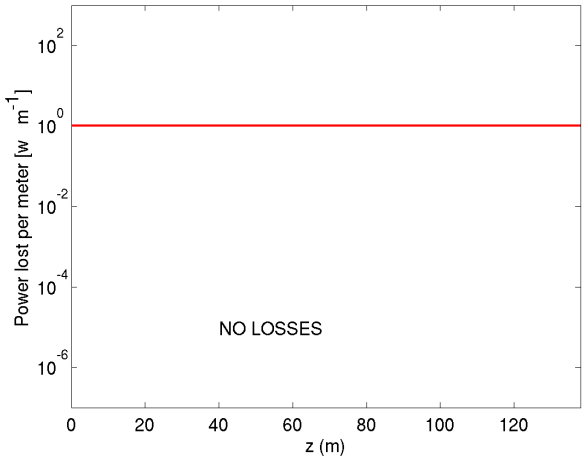


Figure: Losses [W·m^{-1}]



(39) Cavities Field $\delta F_{static} = 2.0$ %

Figure: RMS Emittance X

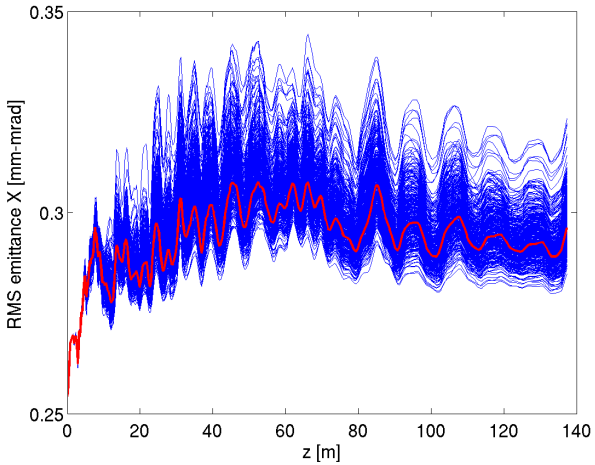


Figure: RMS Emittance Y

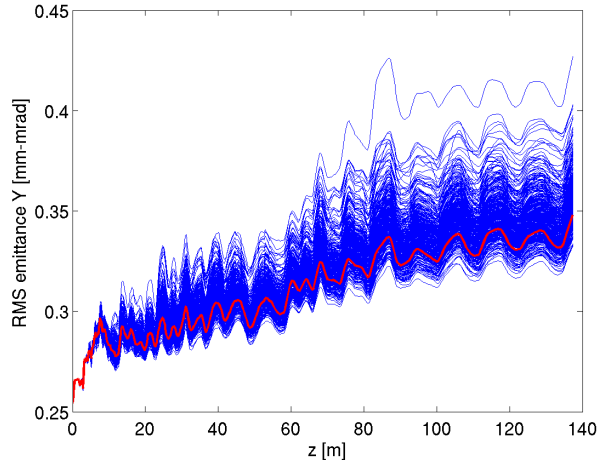


Figure: RMS Emittance Z

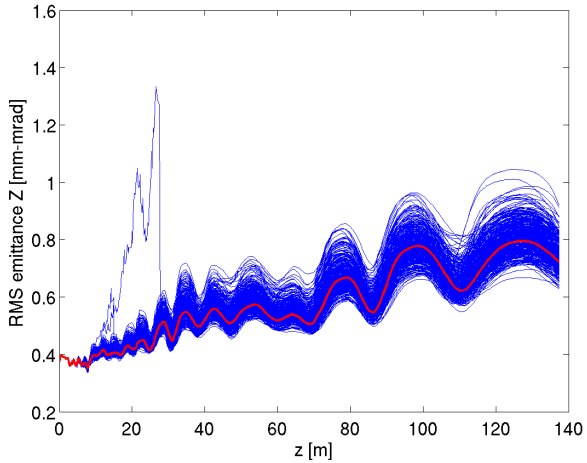
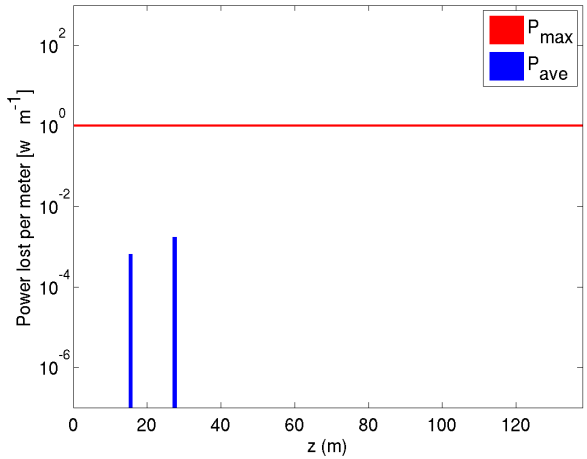


Figure: Losses [W·m^{-1}]



(40) Cavities Field $\delta F_{static} = 2.5$ %

Figure: RMS Emittance X

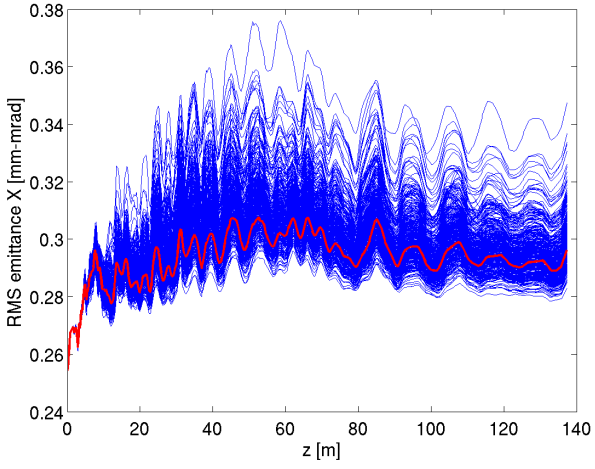


Figure: RMS Emittance Y

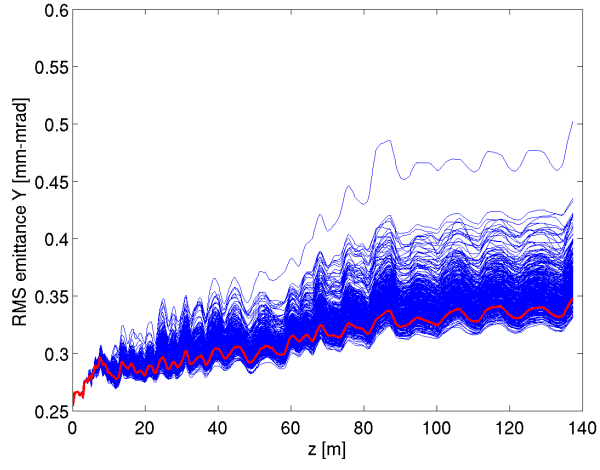


Figure: RMS Emittance Z

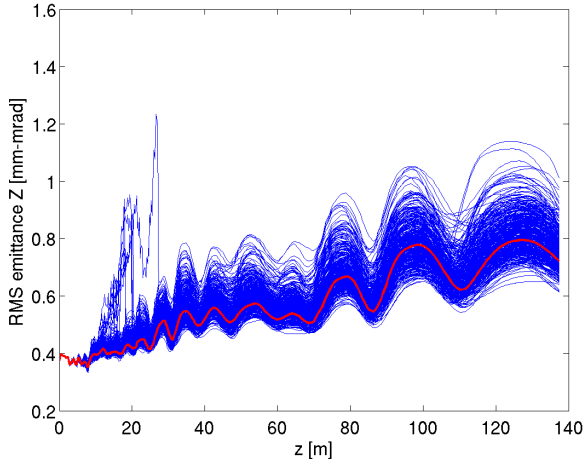
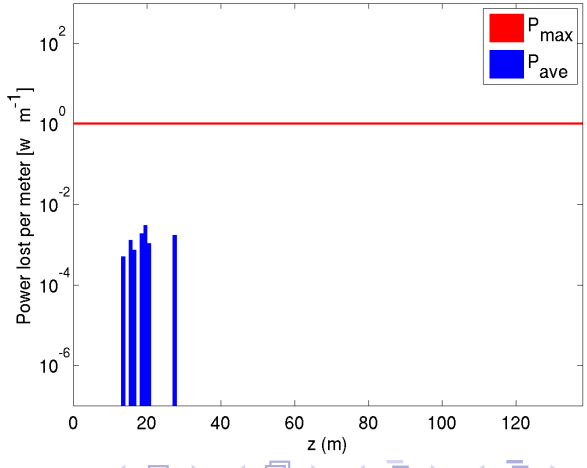


Figure: Losses [W·m^{-1}]



(41) Cavities $\delta_x = 150\ \mu$m

Figure: RMS Emittance X

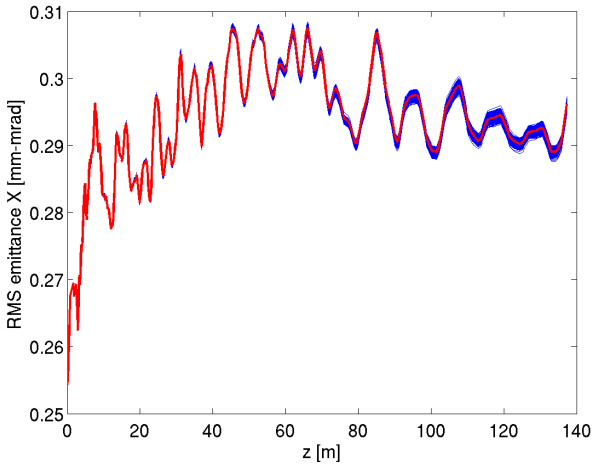


Figure: RMS Emittance Y

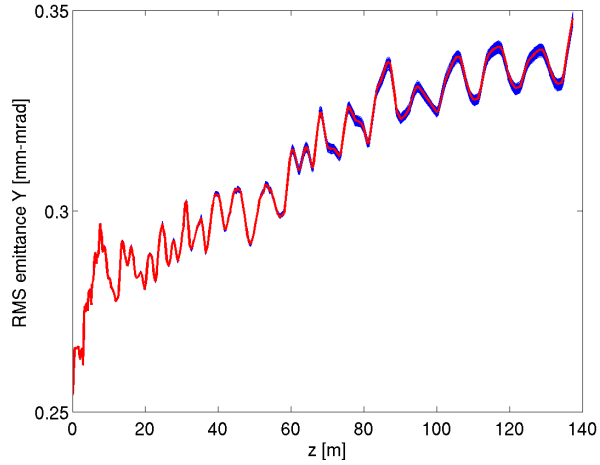


Figure: RMS Emittance Z

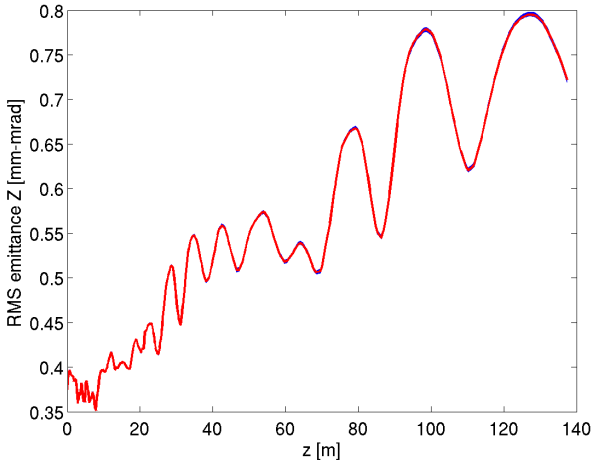
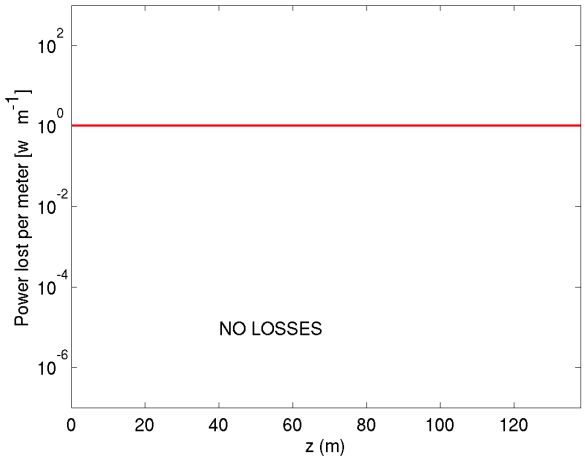


Figure: Losses [W·m^{-1}]



(42) Cavities $\delta_x = 300\ \mu$m

Figure: RMS Emittance X

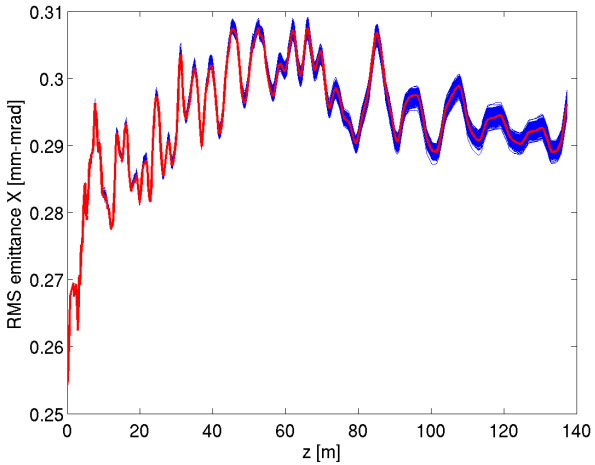


Figure: RMS Emittance Y

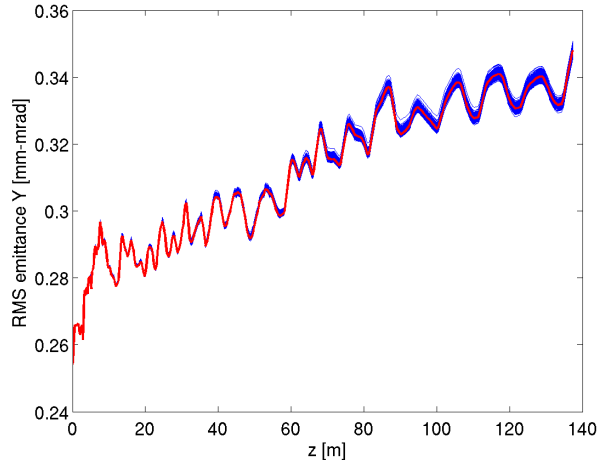


Figure: RMS Emittance Z

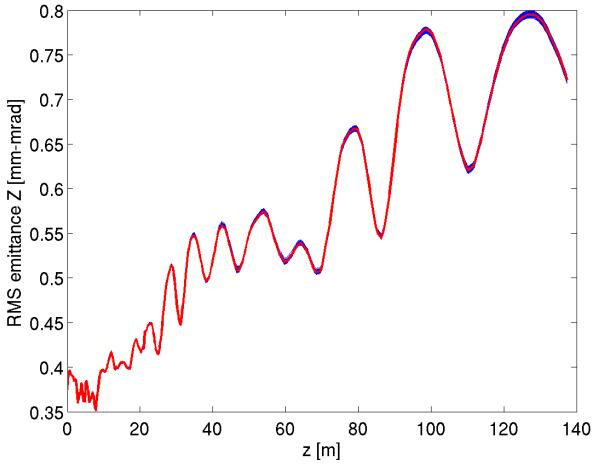
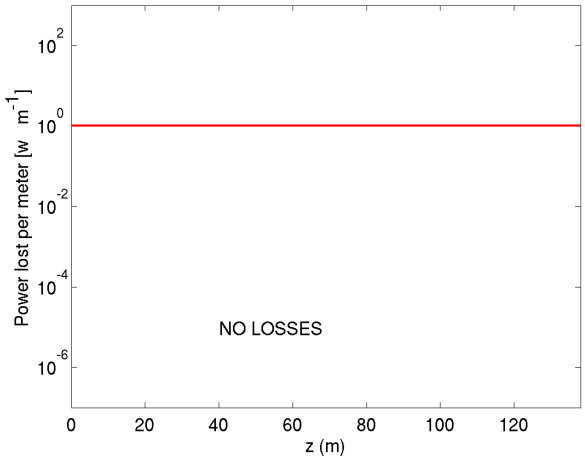


Figure: Losses [W·m^{-1}]



(43) Cavities $\delta_x = 500\ \mu$m

Figure: RMS Emittance X

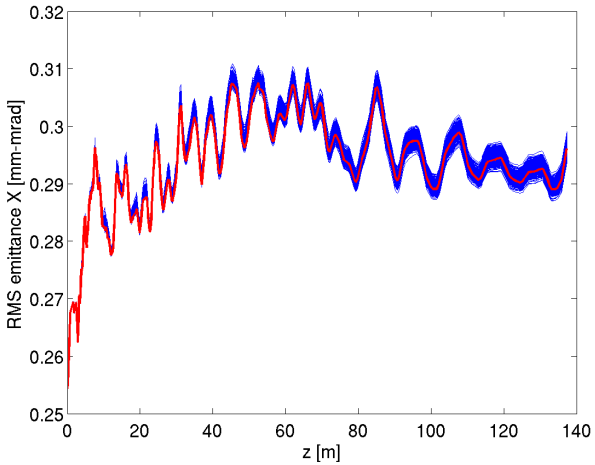


Figure: RMS Emittance Y

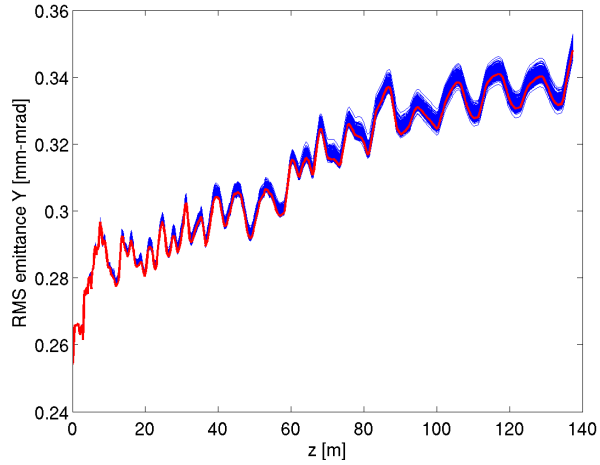


Figure: RMS Emittance Z

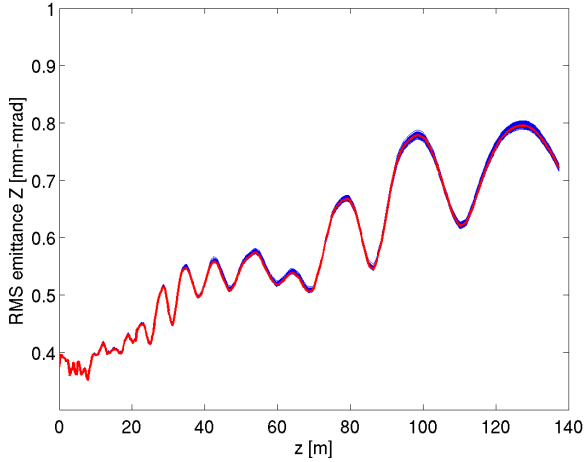
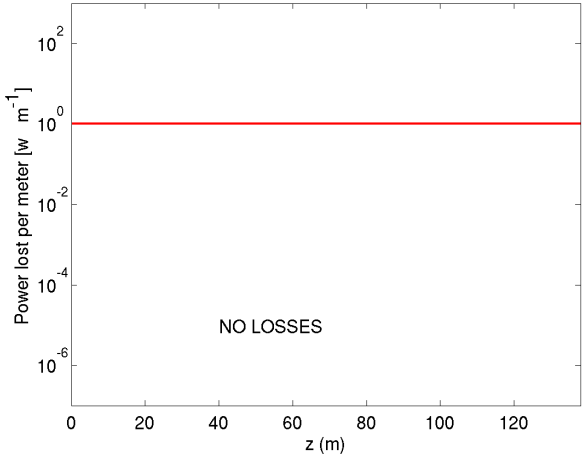


Figure: Losses [W·m^{-1}]



(44) Cavities $\delta_x = 750\ \mu$m

Figure: RMS Emittance X

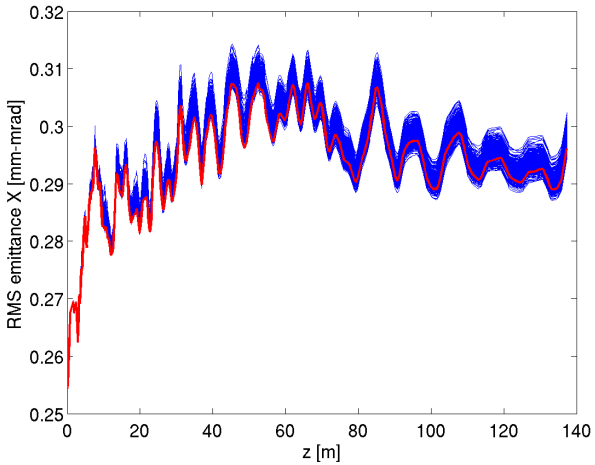


Figure: RMS Emittance Y

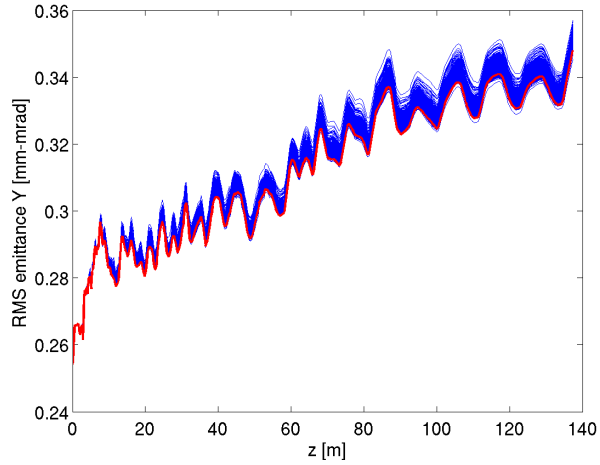


Figure: RMS Emittance Z

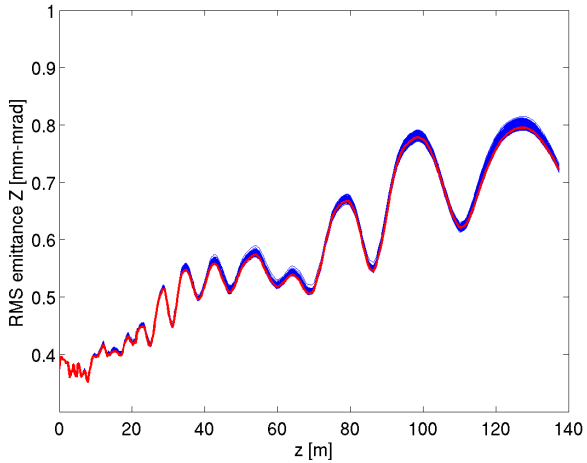
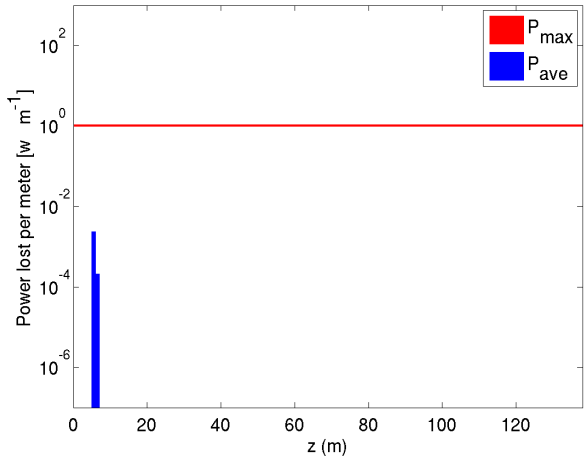


Figure: Losses [W·m^{-1}]



(45) Cavities $\delta_x = 1000\ \mu$m

Figure: RMS Emittance X

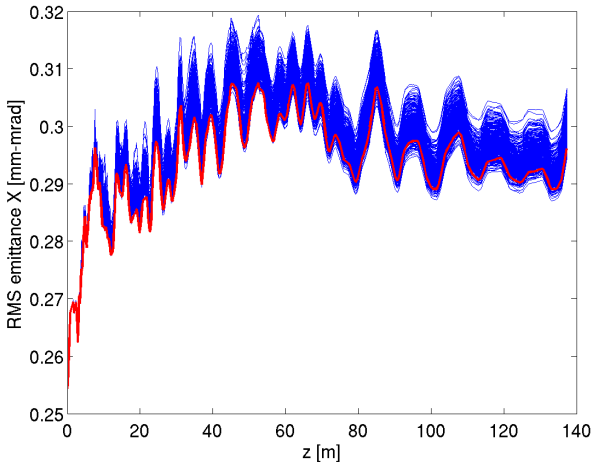


Figure: RMS Emittance Y

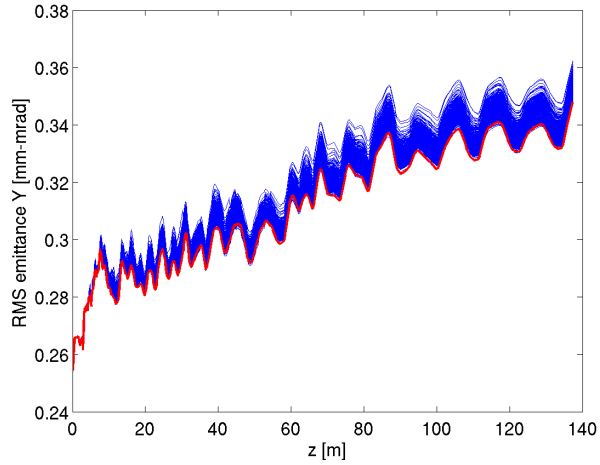


Figure: RMS Emittance Z

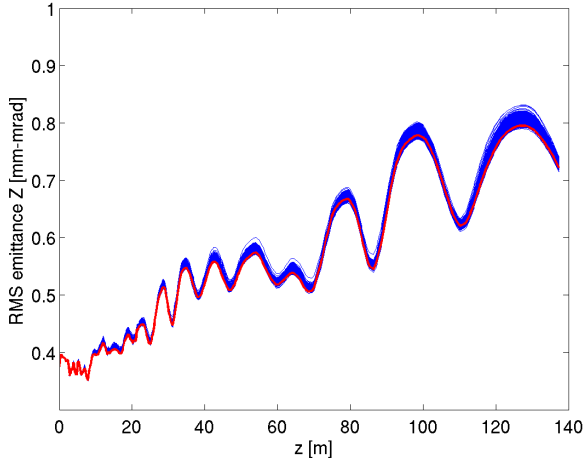
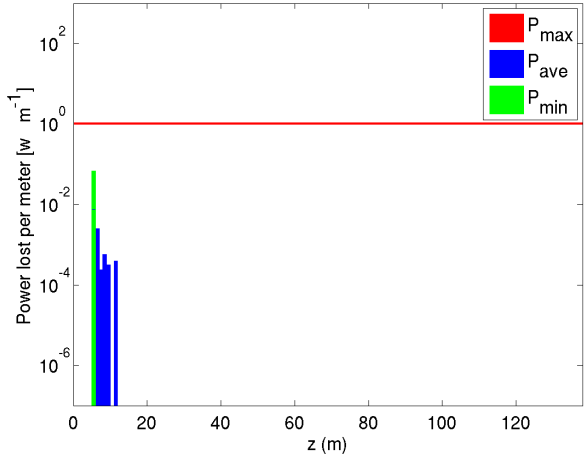


Figure: Losses [W·m^{-1}]



(46) Cavities $\delta_x = \delta_y = 150\ \mu$m

Figure: RMS Emittance X

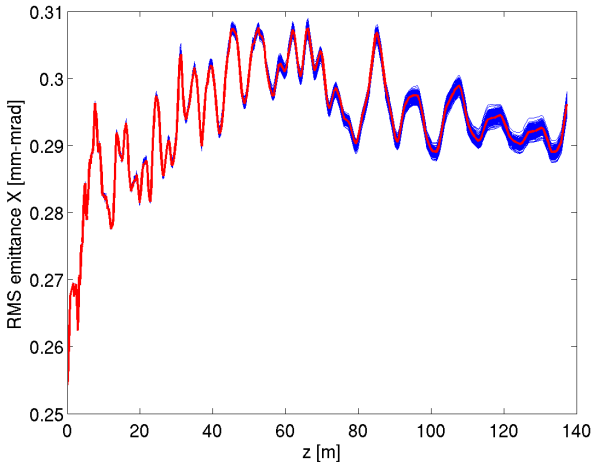


Figure: RMS Emittance Y

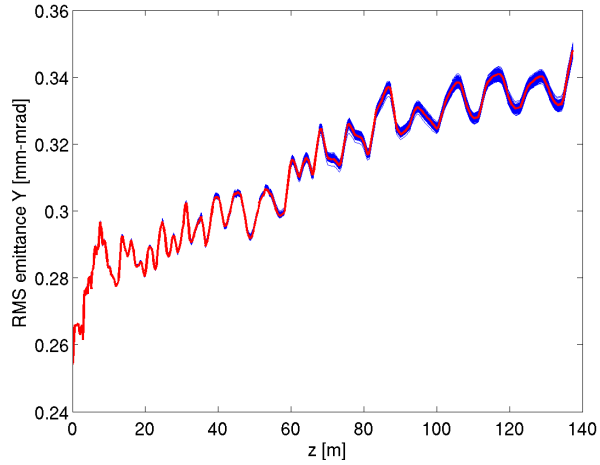


Figure: RMS Emittance Z

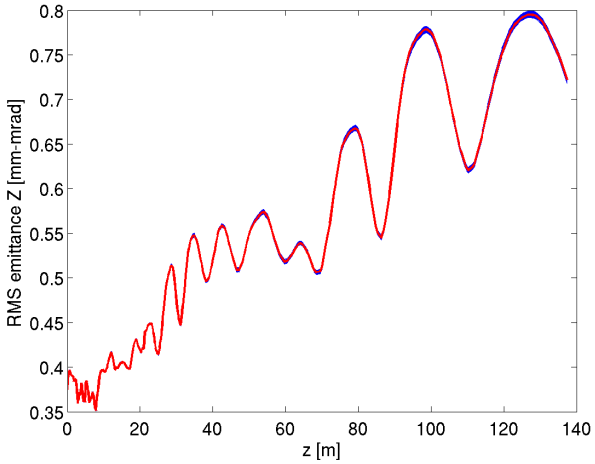
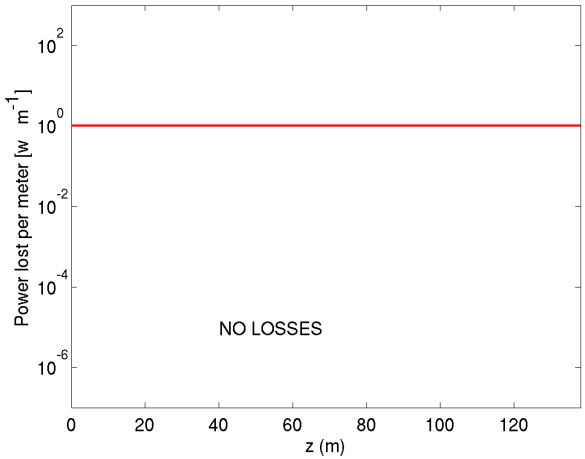


Figure: Losses [W·m^{-1}]



(47) Cavities $\delta_x = \delta_y = 300\ \mu$m

Figure: RMS Emittance X

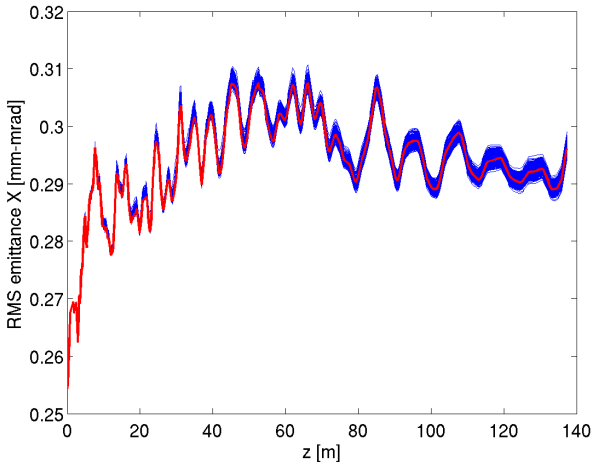


Figure: RMS Emittance Y

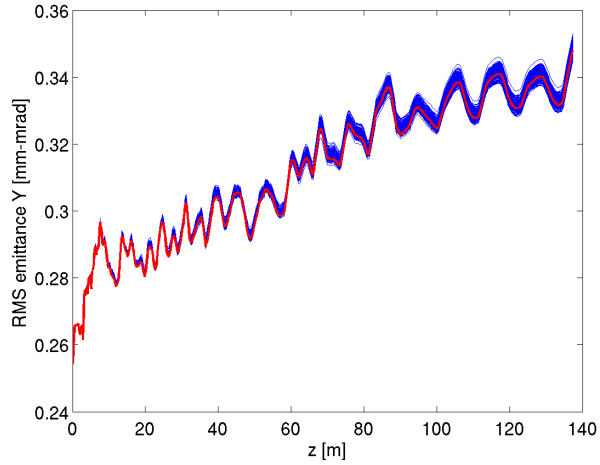


Figure: RMS Emittance z

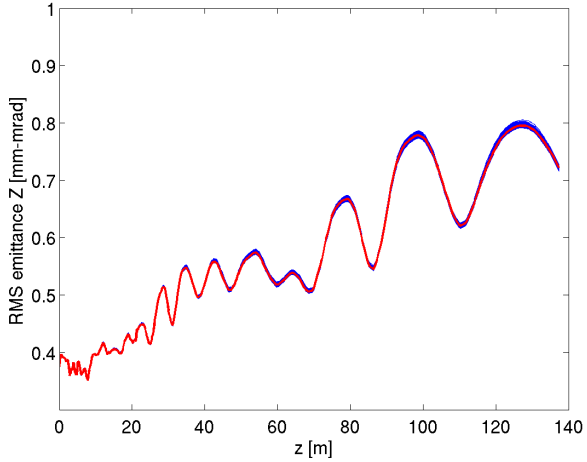
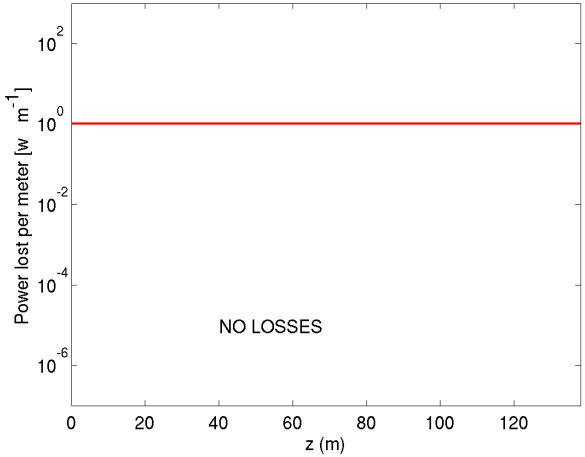


Figure: Losses [W·m^{-1}]



(48) Cavities $\delta_x = \delta_y = 500\ \mu$m

Figure: RMS Emittance X

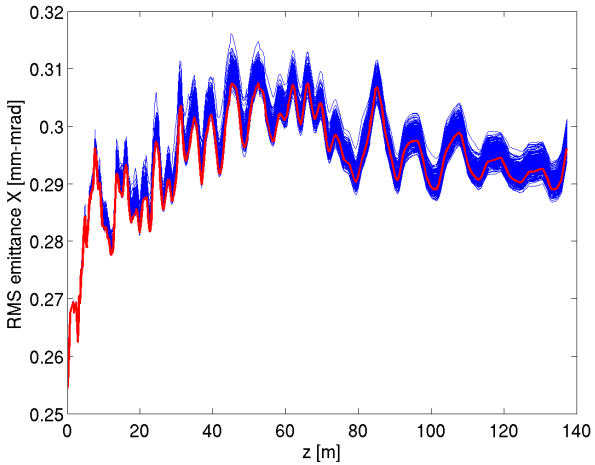


Figure: RMS Emittance Y

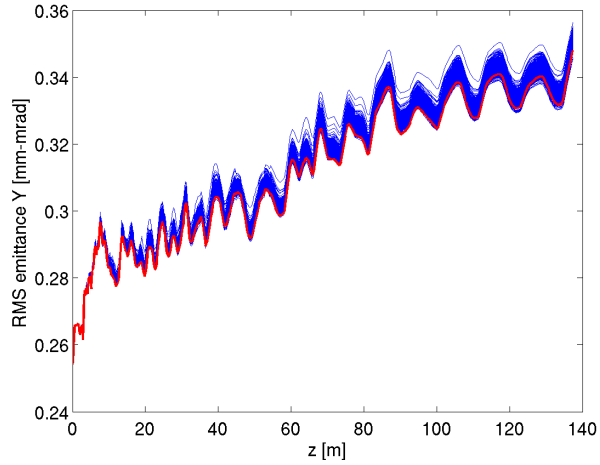


Figure: RMS Emittance Z

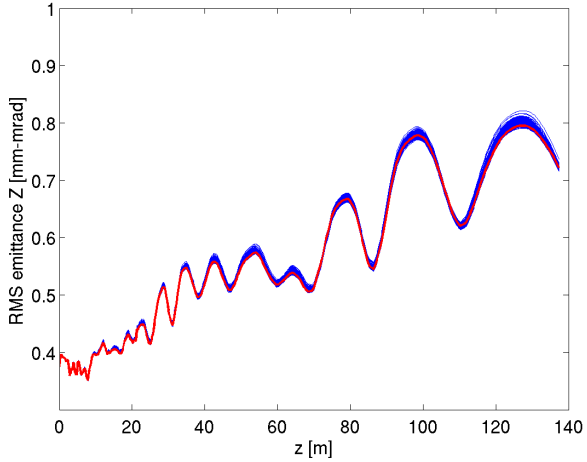
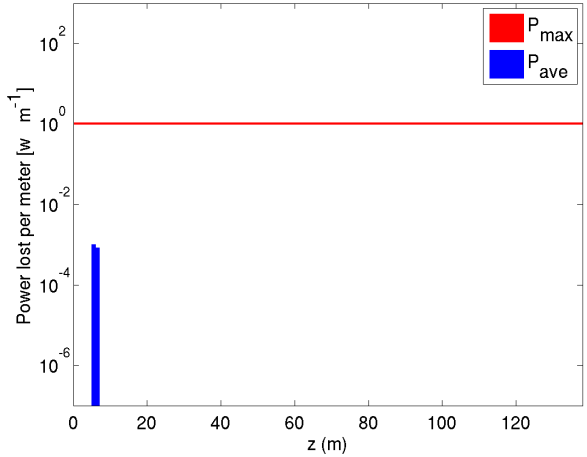


Figure: Losses [W·m^{-1}]



(49) Cavities $\delta_x = \delta_y = 750\ \mu$m

Figure: RMS Emittance X

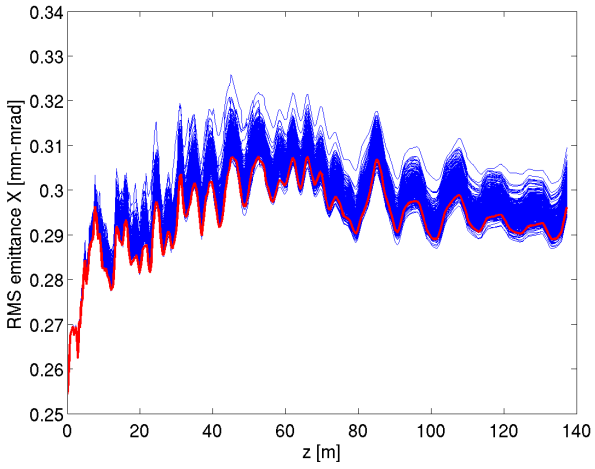


Figure: RMS Emittance Y

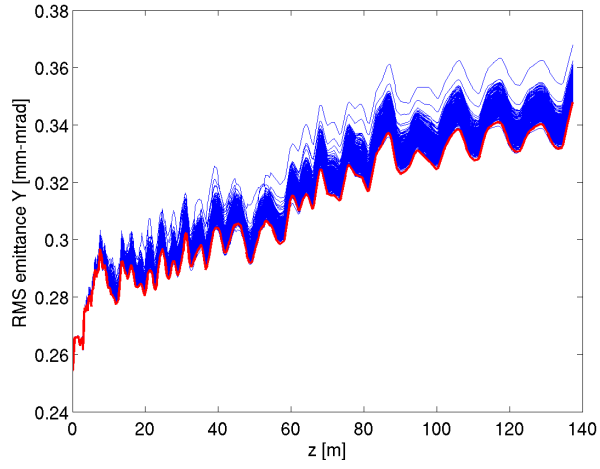


Figure: RMS Emittance Z

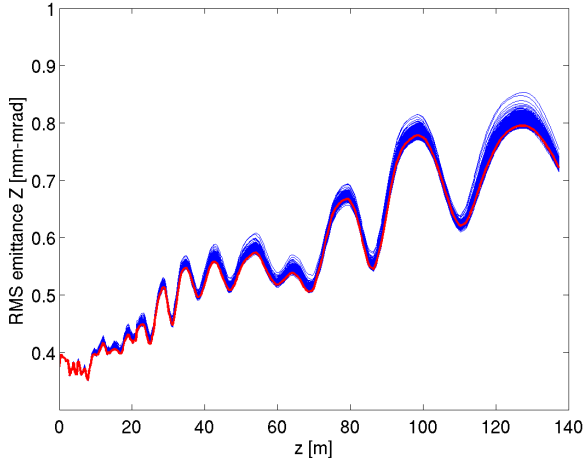
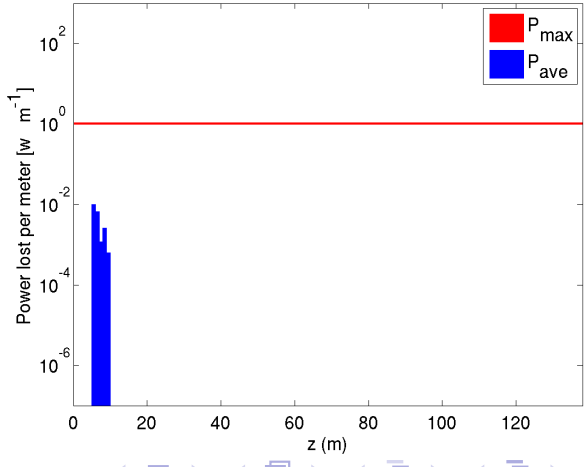


Figure: Losses [W·m^{-1}]



(50) Cavities $\delta_x = \delta_y = 1000\ \mu$m

Figure: RMS Emittance X

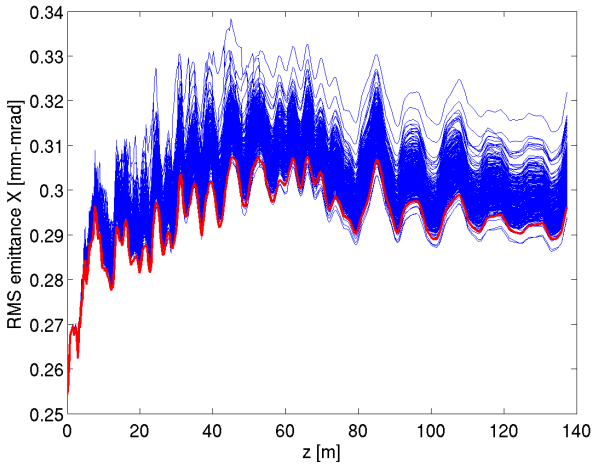


Figure: RMS Emittance Y

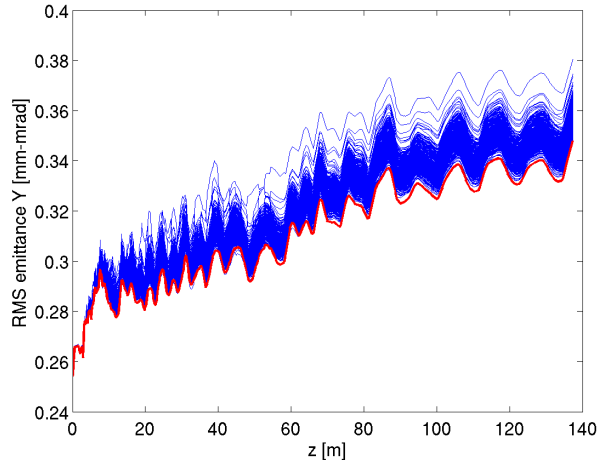


Figure: RMS Emittance Z

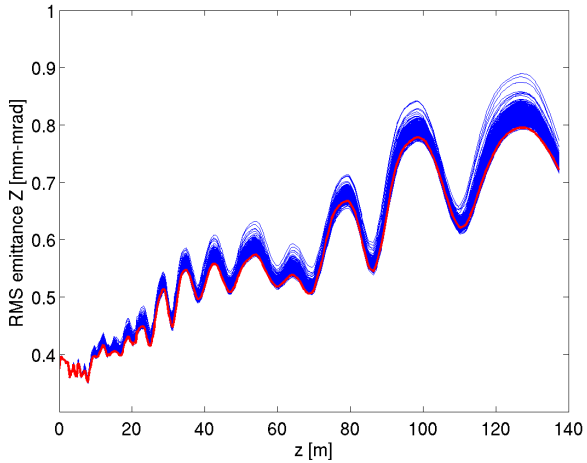
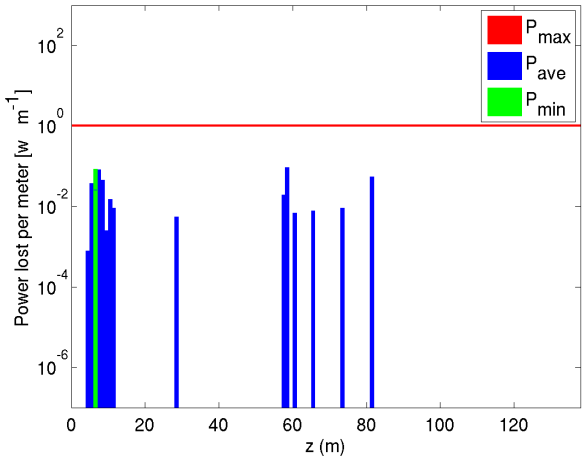


Figure: Losses [W·m^{-1}]



(51) Cavities $\delta_z = 150\ \mu$m

Figure: RMS Emittance X

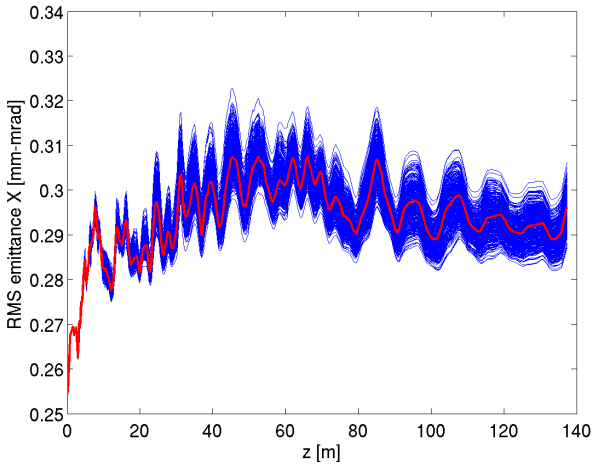


Figure: RMS Emittance Y

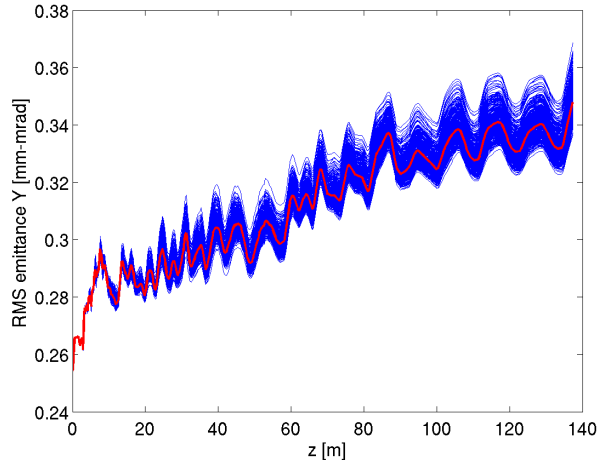


Figure: RMS Emittance Z

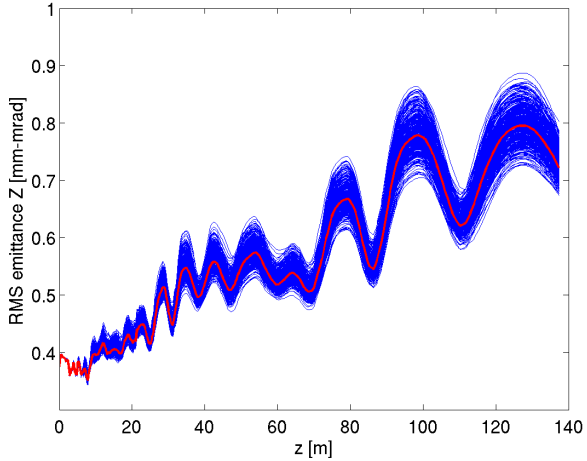
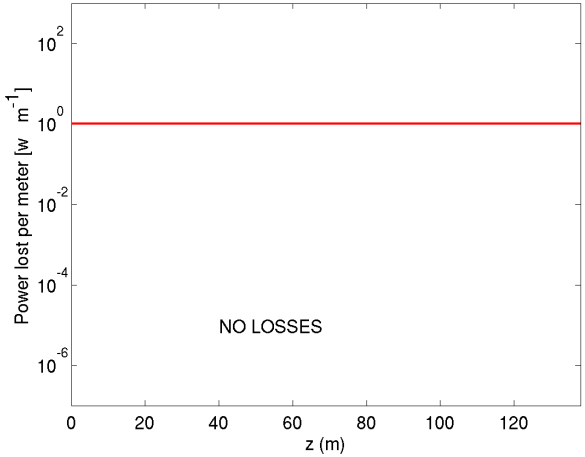


Figure: Losses [W·m^{-1}]



(52) Cavities $\delta_z = 300\ \mu$m

Figure: RMS Emittance X

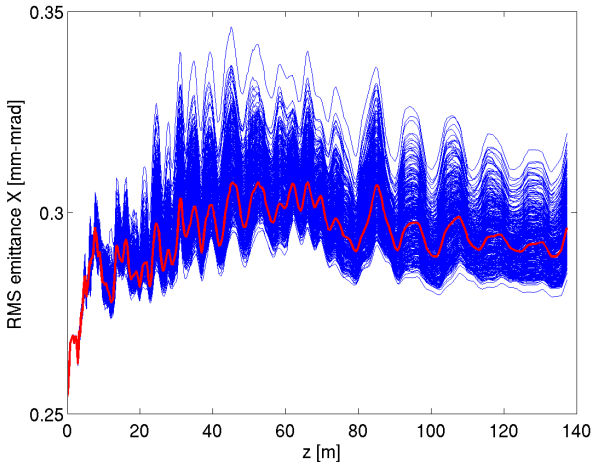


Figure: RMS Emittance Y

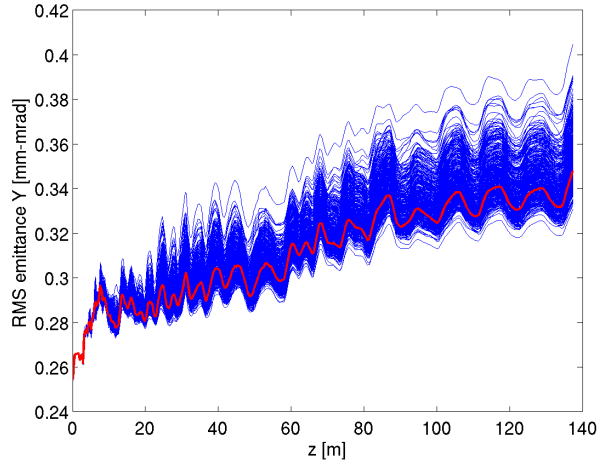


Figure: RMS Emittance Z

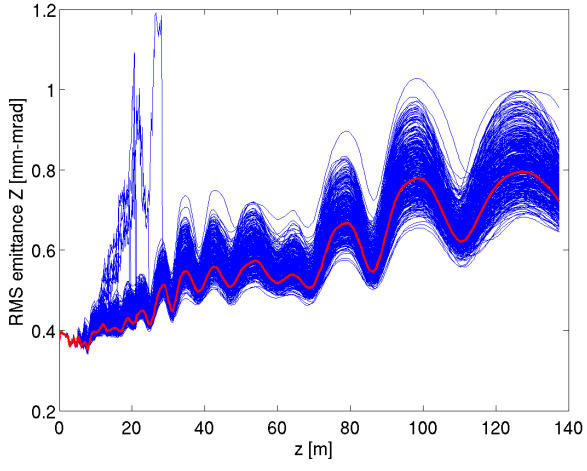
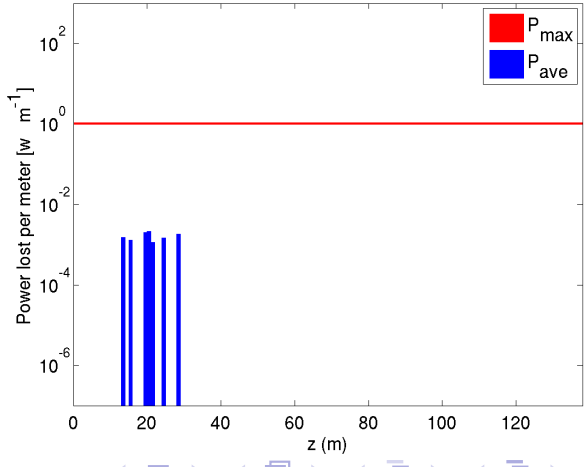


Figure: Losses [W·m^{-1}]



(53) Cavities $\delta_z = 500\ \mu$m

Figure: RMS Emittance X

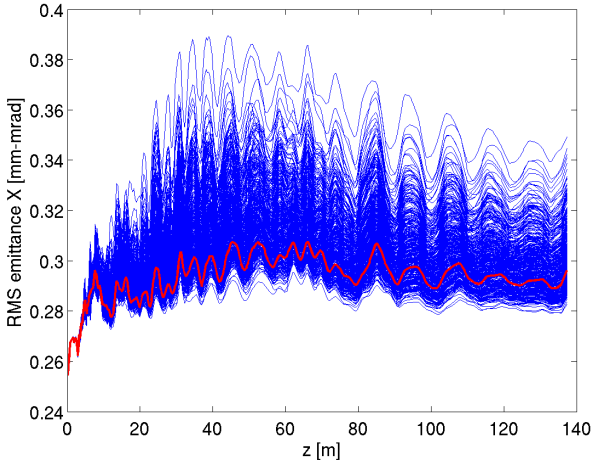


Figure: RMS Emittance Y

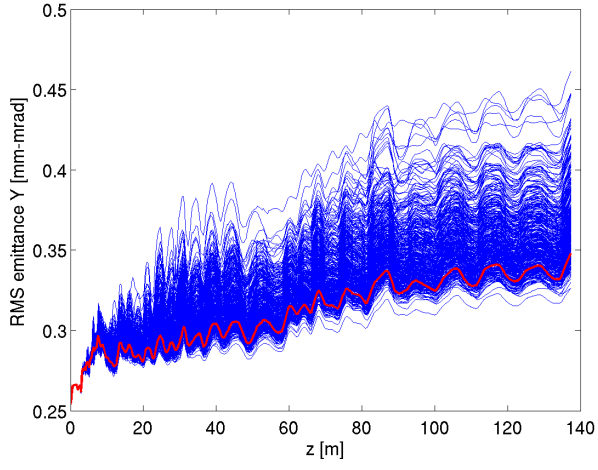


Figure: RMS Emittance Z

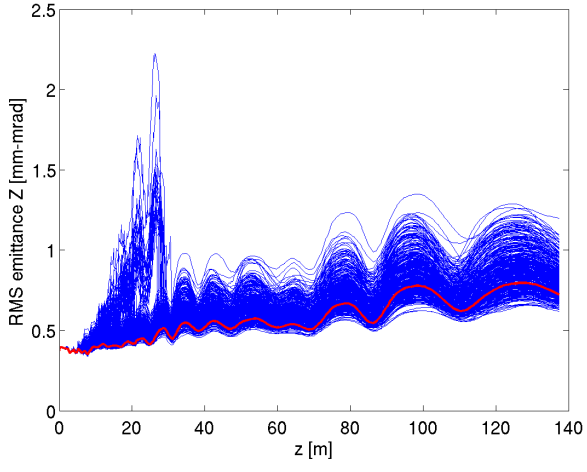
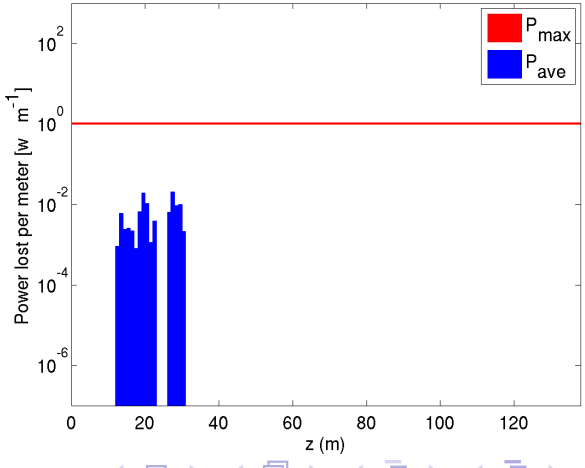


Figure: Losses [W·m^{-1}]



(54) Cavities $\delta_z = 750\ \mu$m

Figure: RMS Emittance X

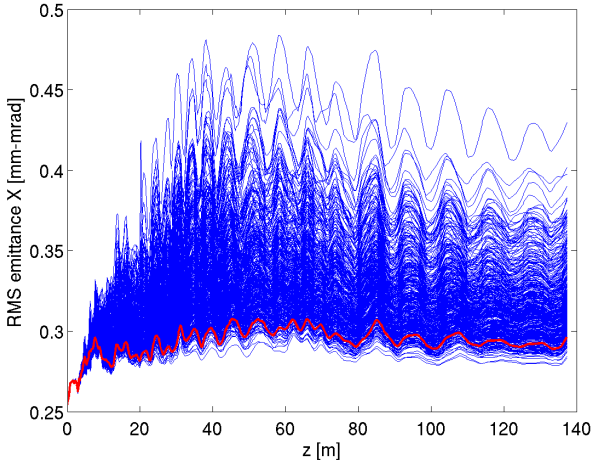


Figure: RMS Emittance Y

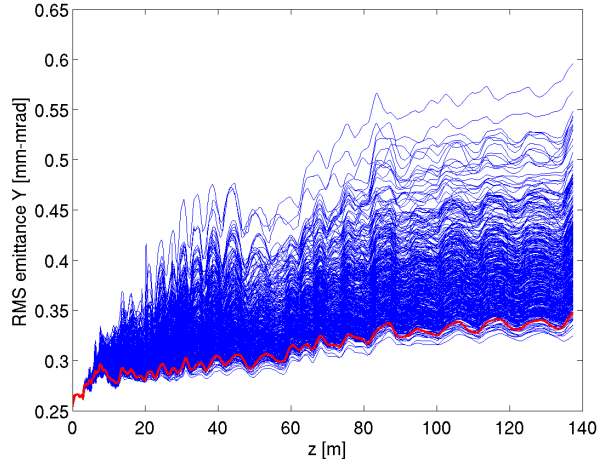


Figure: RMS Emittance Z

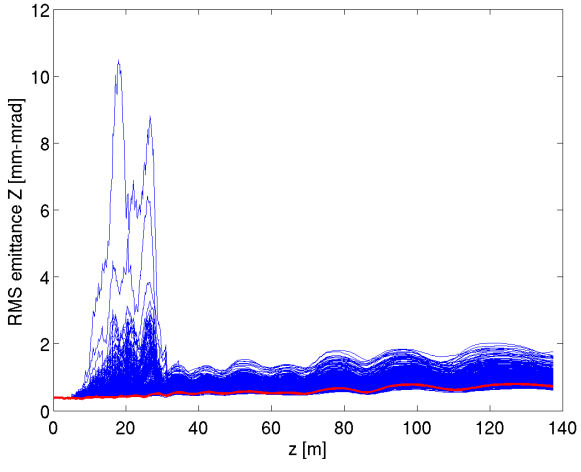
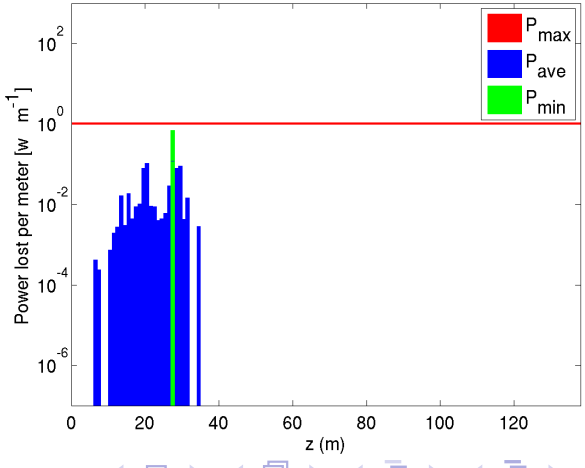


Figure: Losses [W·m^{-1}]



(55) Cavities $\delta_z = 1000\ \mu$m

Figure: RMS Emittance X

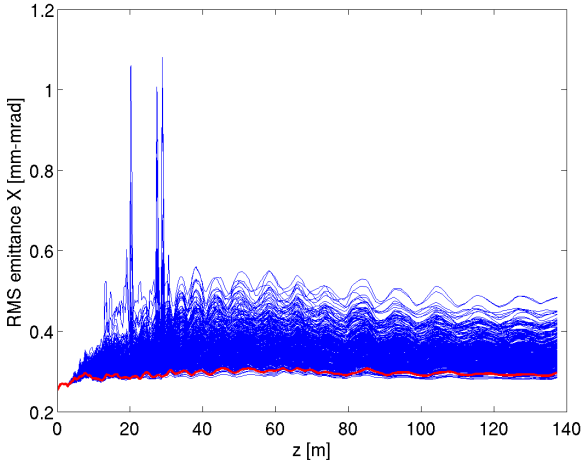


Figure: RMS Emittance Y

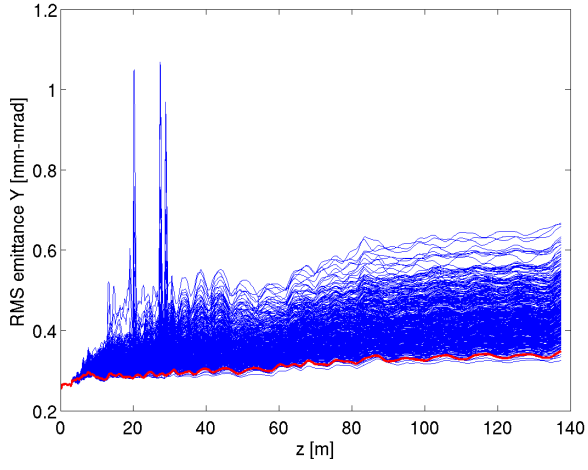


Figure: RMS Emittance Z

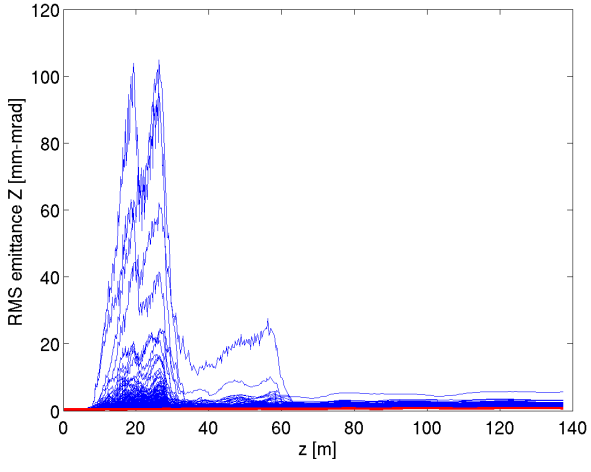
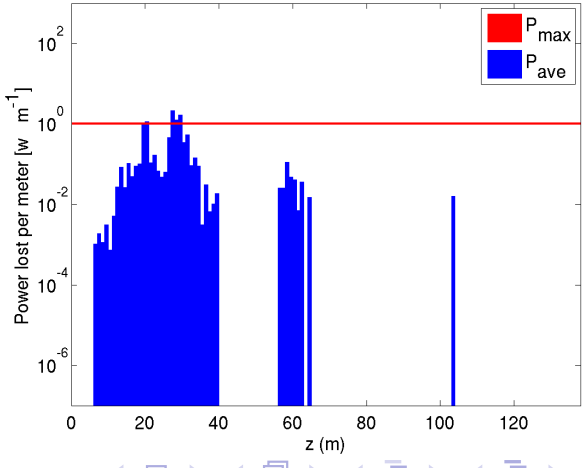


Figure: Losses [W·m^{-1}]



(56) Cavities $\phi_x = 1$ mrad

Figure: RMS Emittance X

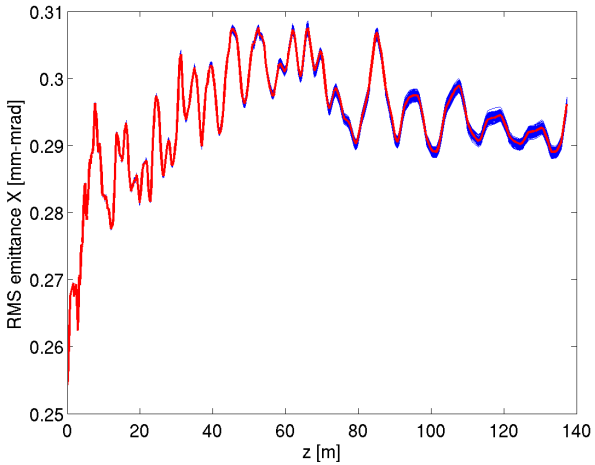


Figure: RMS Emittance Y

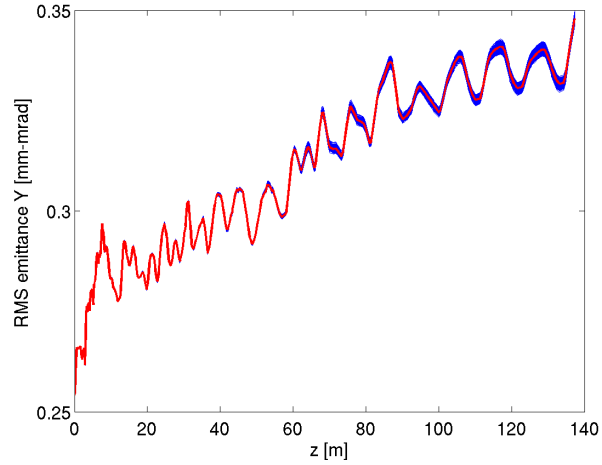


Figure: RMS Emittance Z

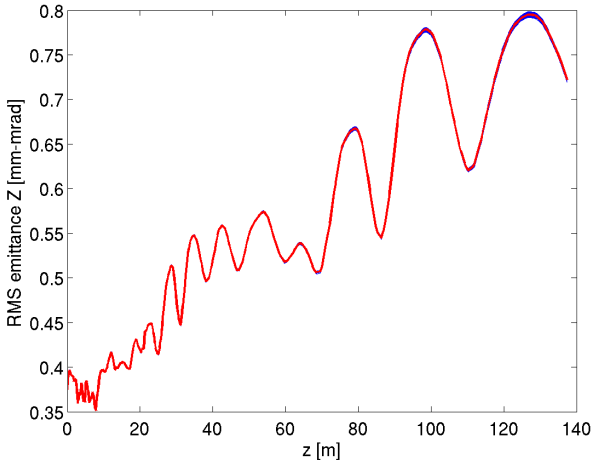
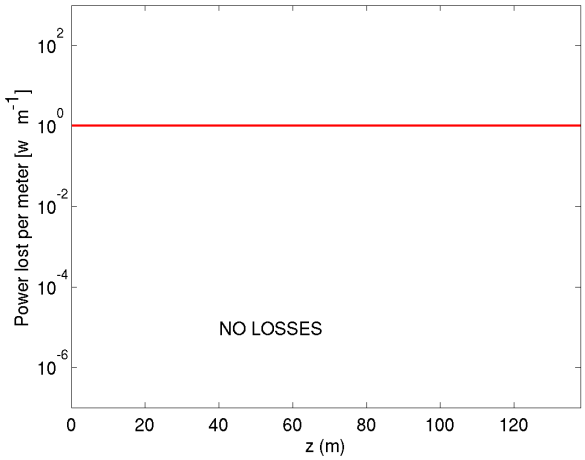


Figure: Losses [W·m^{-1}]



(57) Cavities $\phi_x = 2$ mrad

Figure: RMS Emittance X

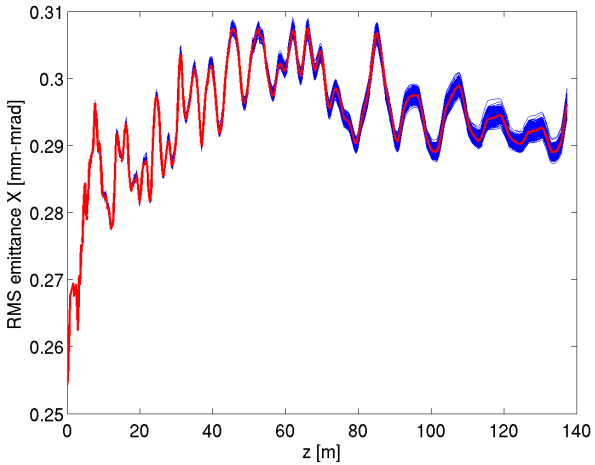


Figure: RMS Emittance Y

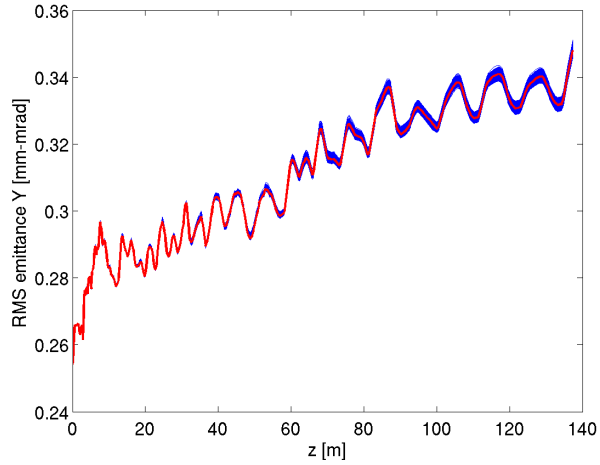


Figure: RMS Emittance Z

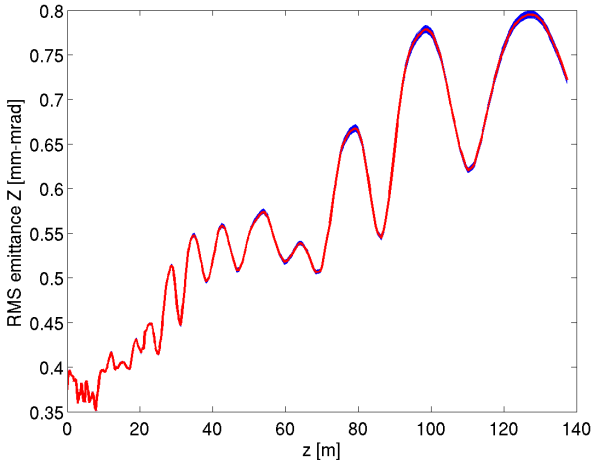
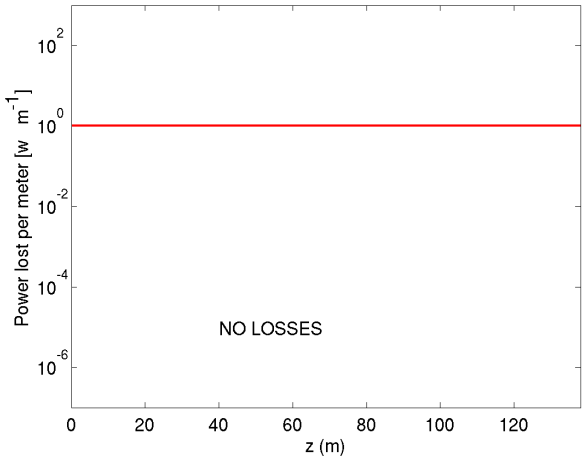


Figure: Losses [W·m^{-1}]



(58) Cavities $\phi_x = 5$ mrad

Figure: RMS Emittance X

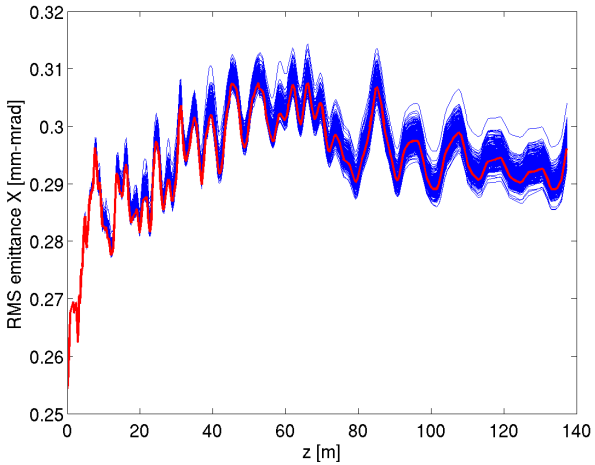


Figure: RMS Emittance Y

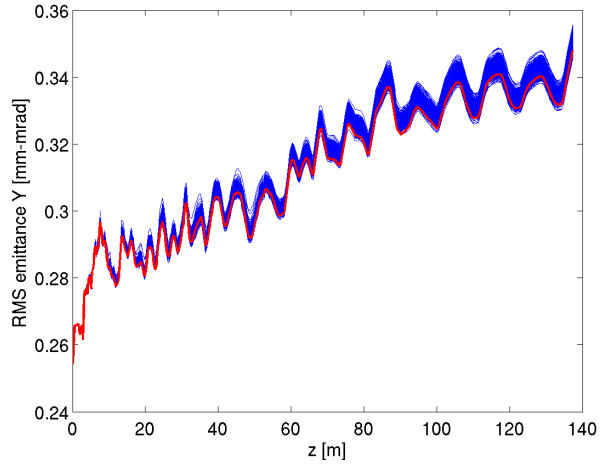


Figure: RMS Emittance Z

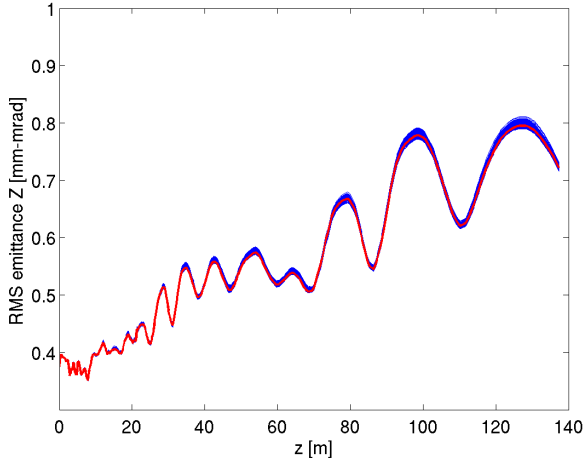
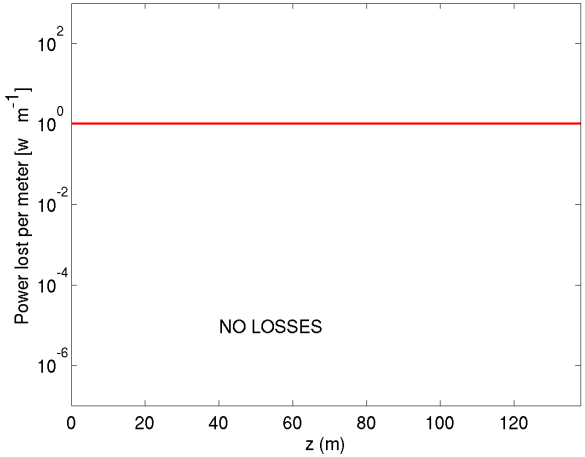


Figure: Losses [W·m^{-1}]



(59) Cavities $\phi_x = 7$ mrad

Figure: RMS Emittance X

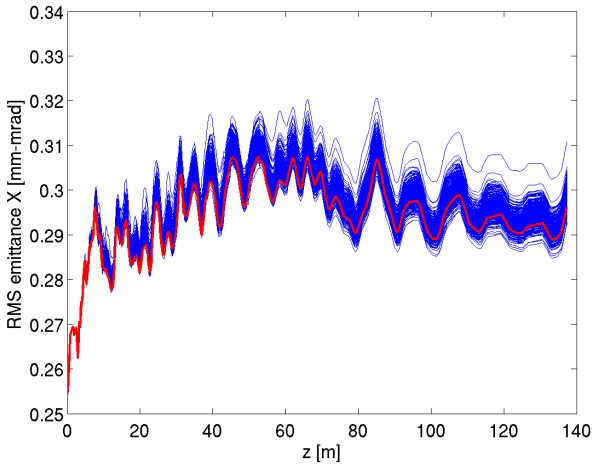


Figure: RMS Emittance Y

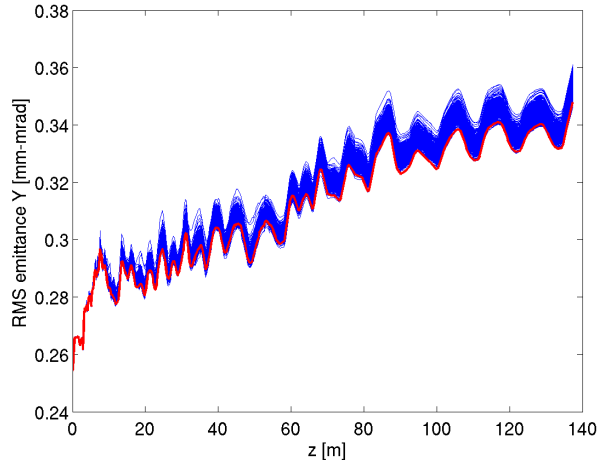


Figure: RMS Emittance Z

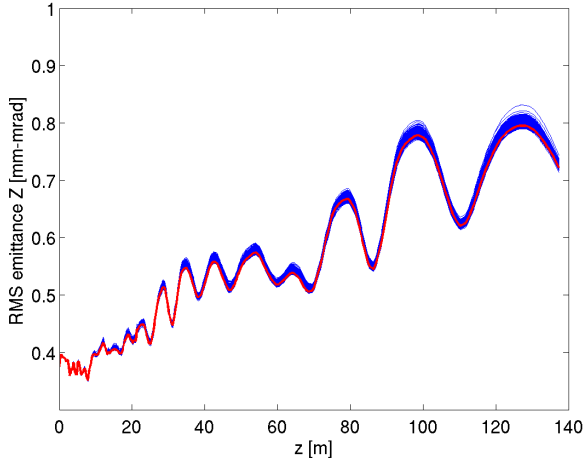
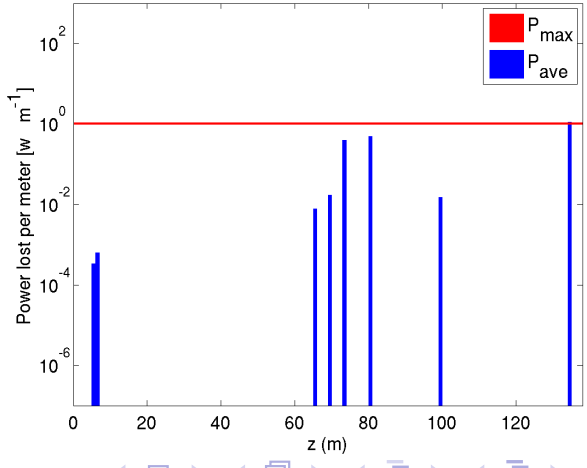


Figure: Losses [W·m^{-1}]



(60) Cavities $\phi_x = 10$ mrad

Figure: RMS Emittance X

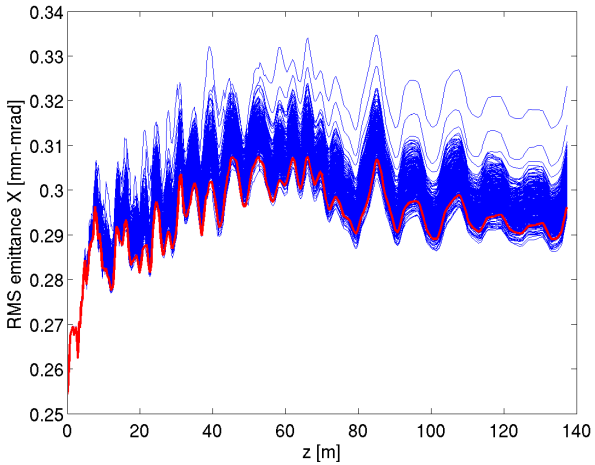


Figure: RMS Emittance Y

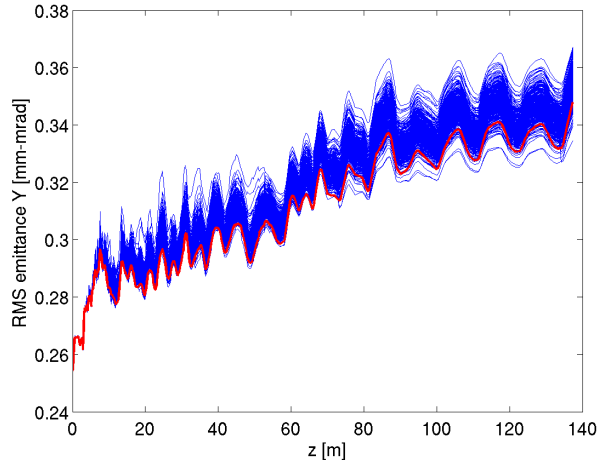


Figure: RMS Emittance Z

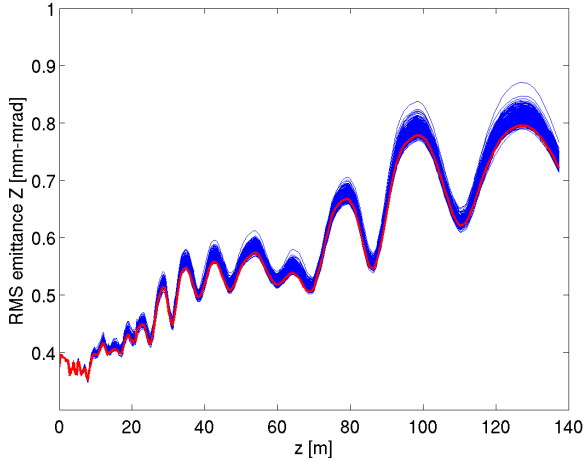
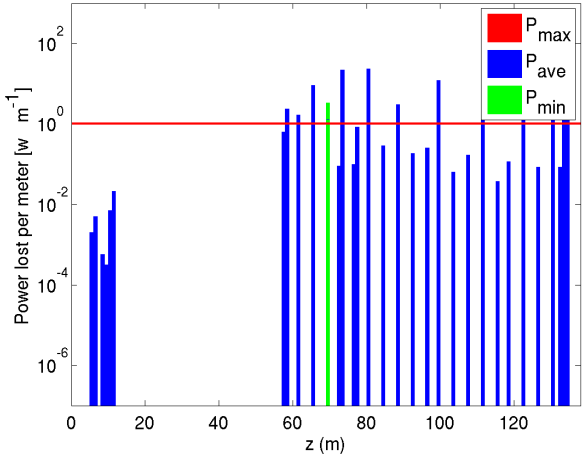


Figure: Losses [W·m^{-1}]



(61) Cavities $\phi_x = \phi_y = 1$ mrad

Figure: RMS Emittance X

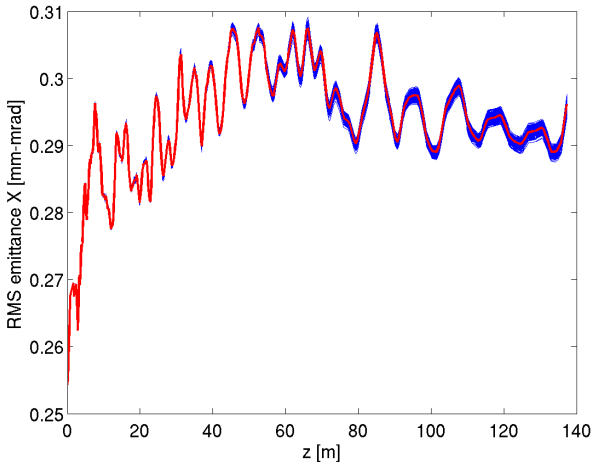


Figure: RMS Emittance Y

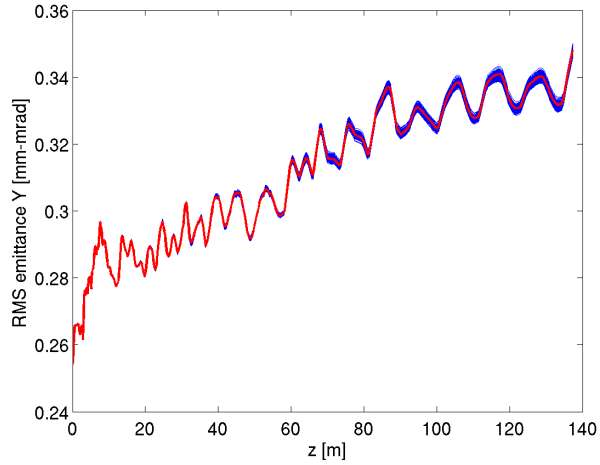


Figure: RMS Emittance Z

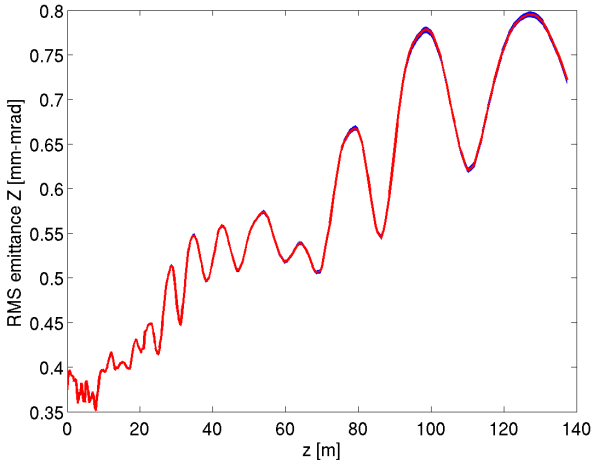
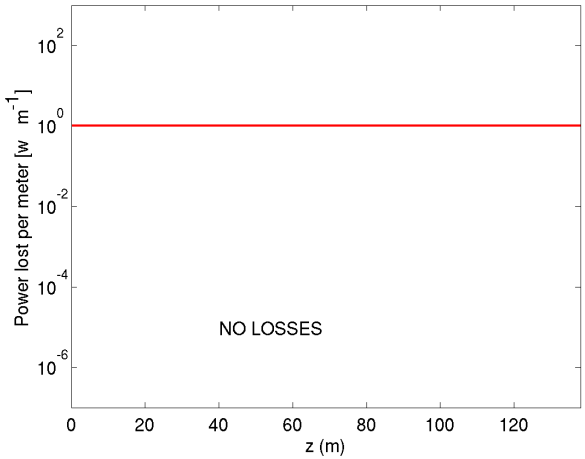


Figure: Losses [W·m^{-1}]



(62) Cavities $\phi_x = \phi_y = 2$ mrad

Figure: RMS Emittance X

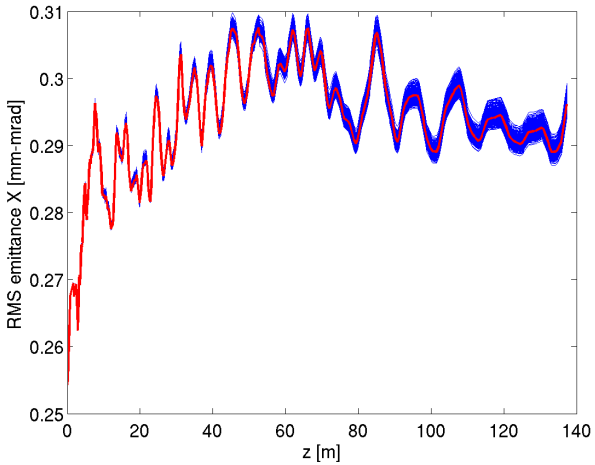


Figure: RMS Emittance Y

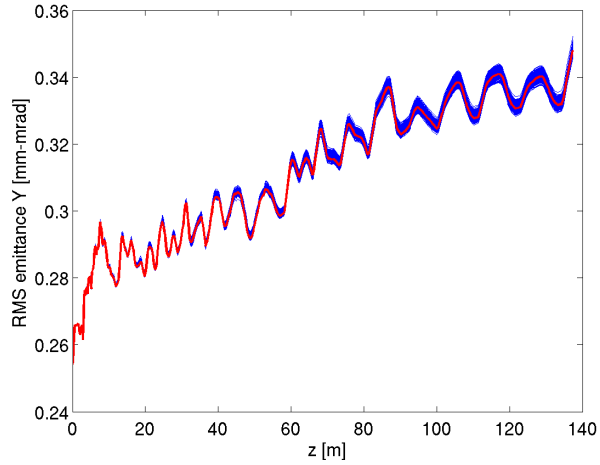


Figure: RMS Emittance Z

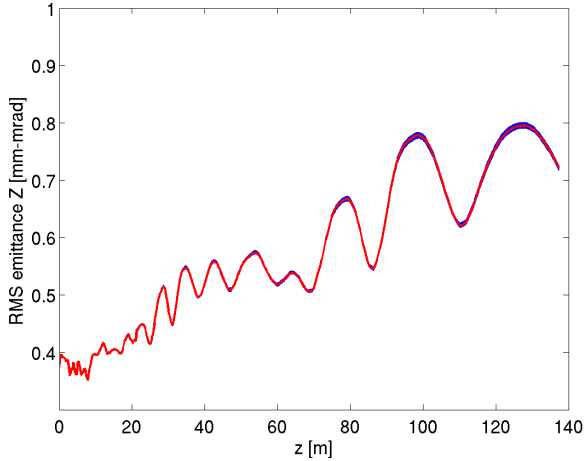
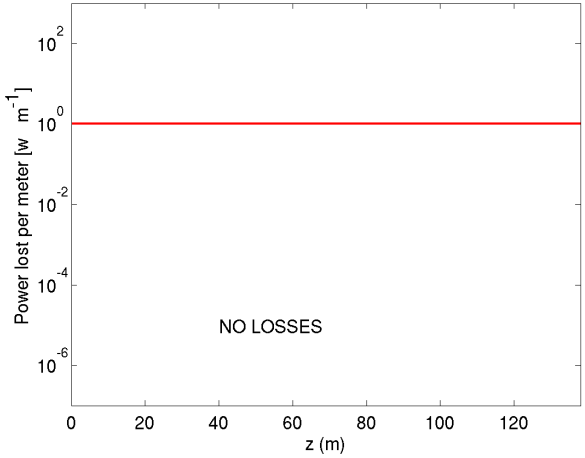


Figure: Losses [W·m^{-1}]



(63) Cavities $\phi_x = \phi_y = 5$ mrad

Figure: RMS Emittance X

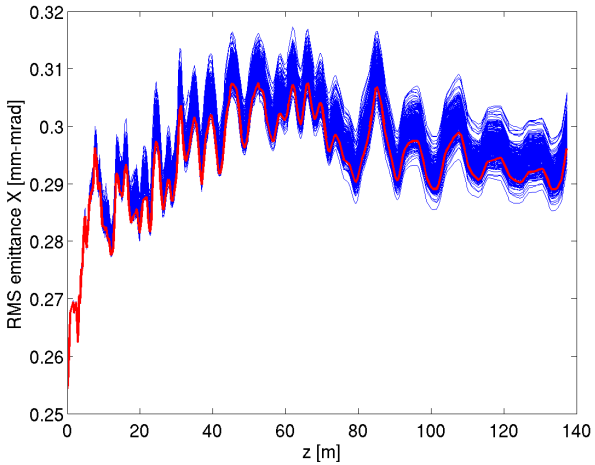


Figure: RMS Emittance Y

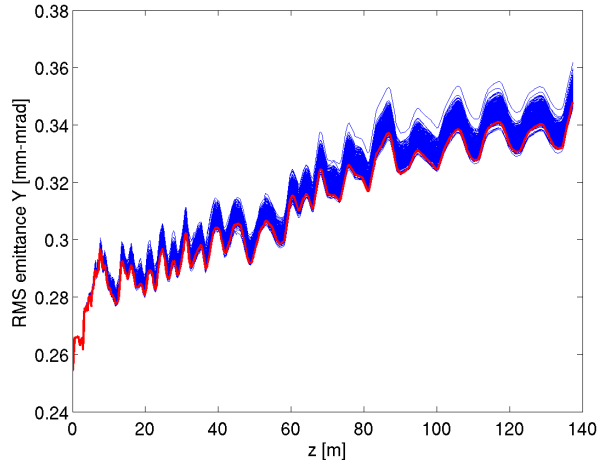


Figure: RMS Emittance Z

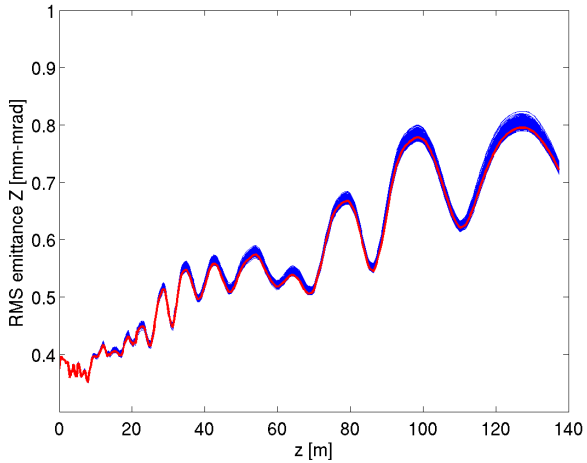
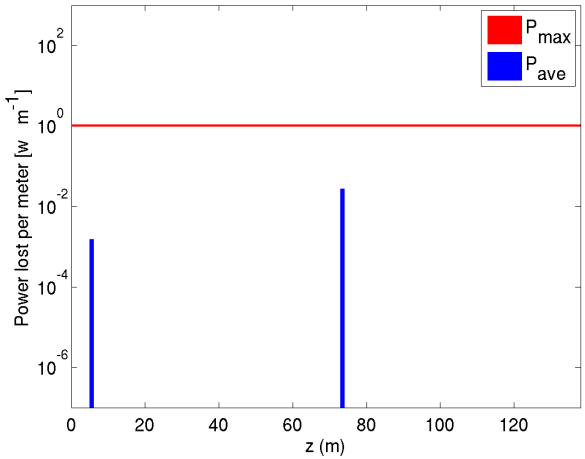


Figure: Losses [W·m^{-1}]



(64) Cavities $\phi_x = \phi_y = 7$ mrad

Figure: RMS Emittance X

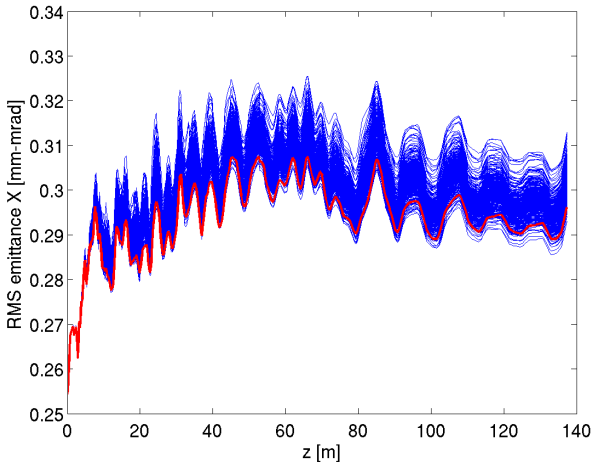


Figure: RMS Emittance Y

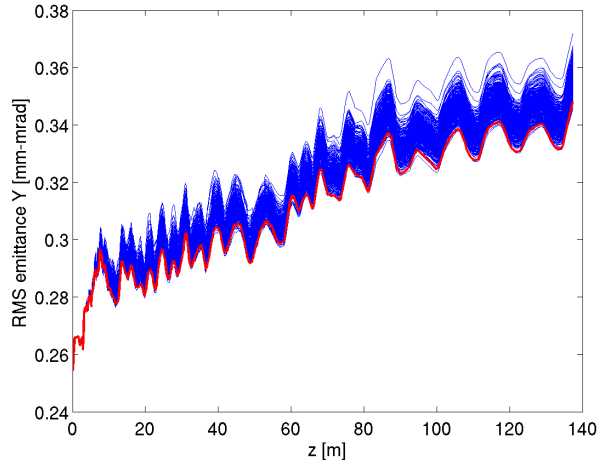


Figure: RMS Emittance Z

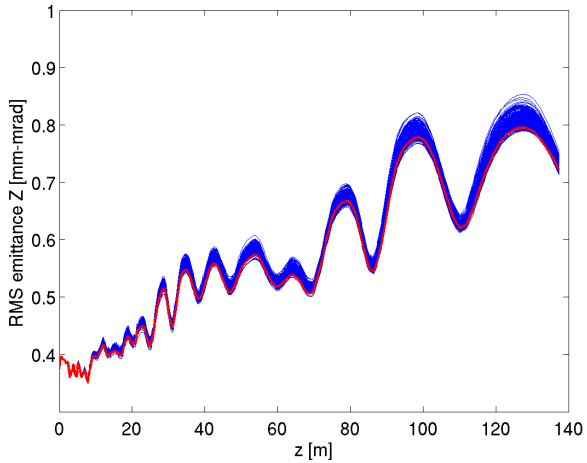
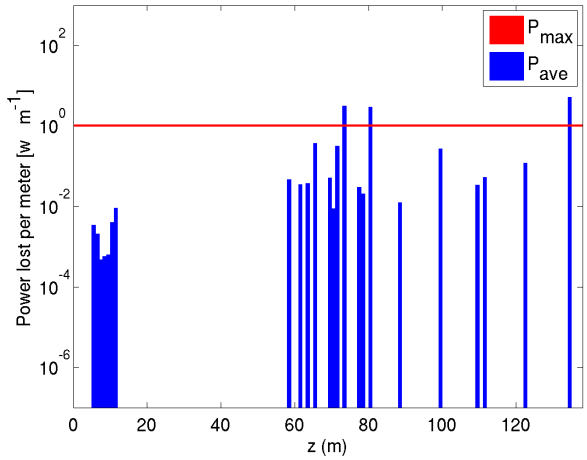


Figure: Losses [W·m^{-1}]



(65) Cavities $\phi_x = \phi_y = 10$ mrad

Figure: RMS Emittance X

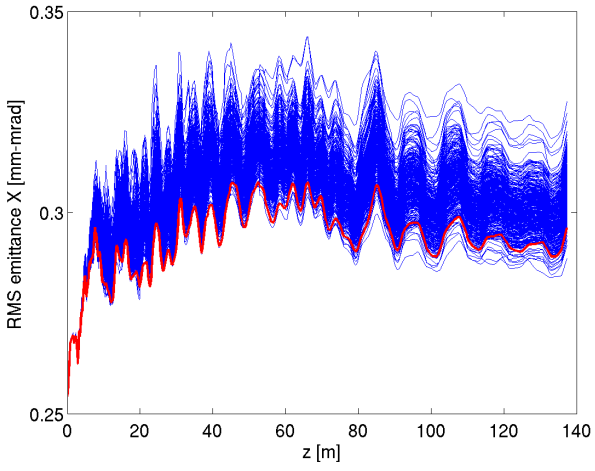


Figure: RMS Emittance Y

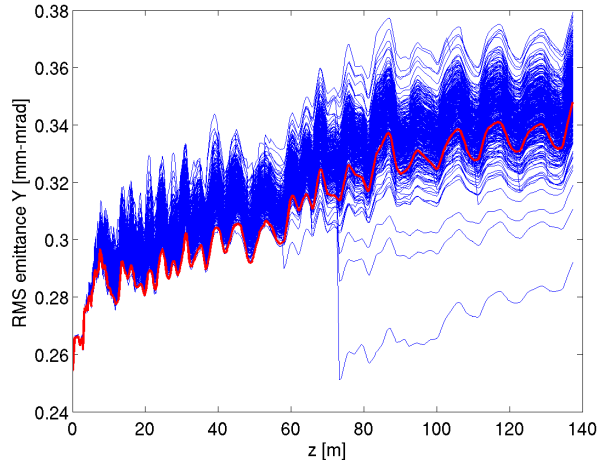


Figure: RMS Emittance Z

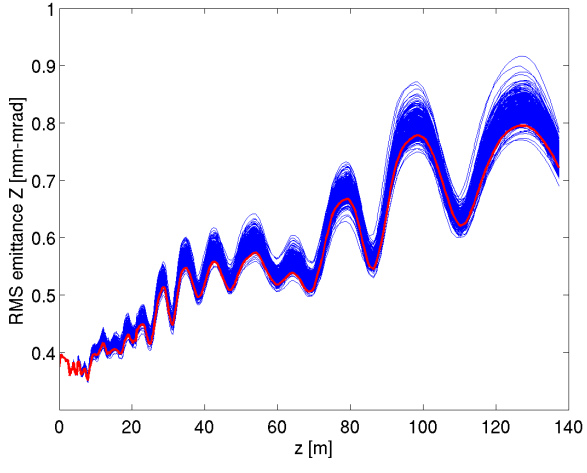
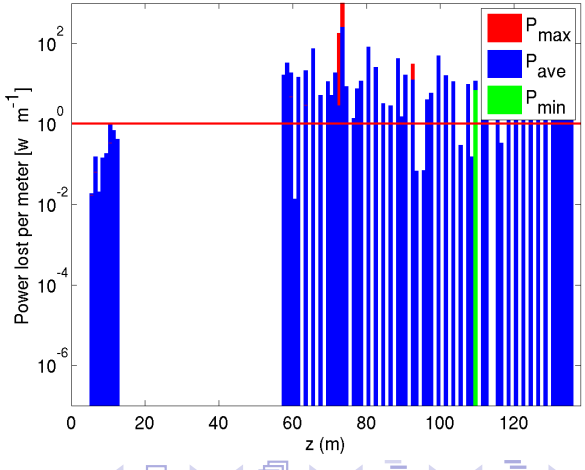


Figure: Losses [W·m^{-1}]



(66) Cavities $\phi_z = 1$ mrad

Figure: RMS Emittance X

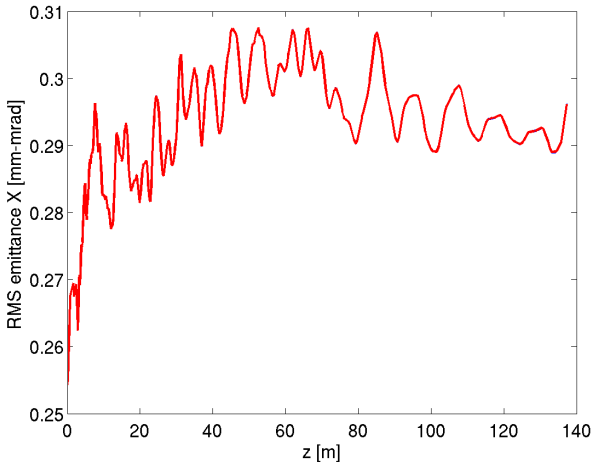


Figure: RMS Emittance Y

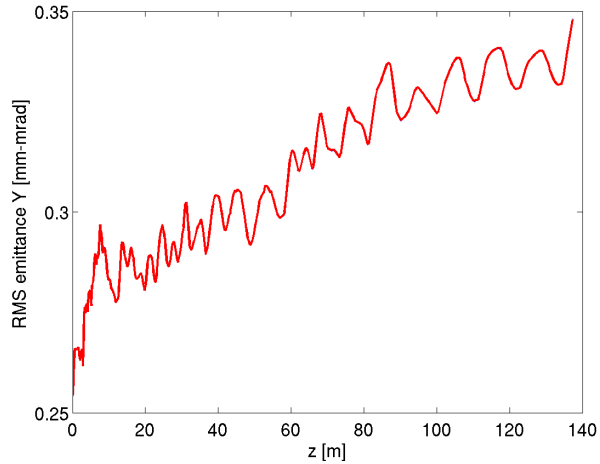


Figure: RMS Emittance Z

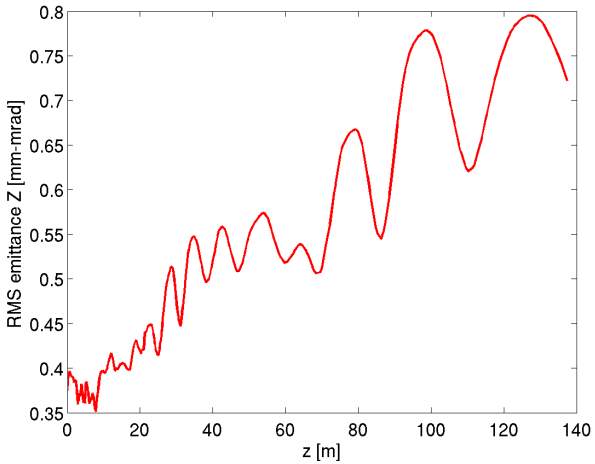
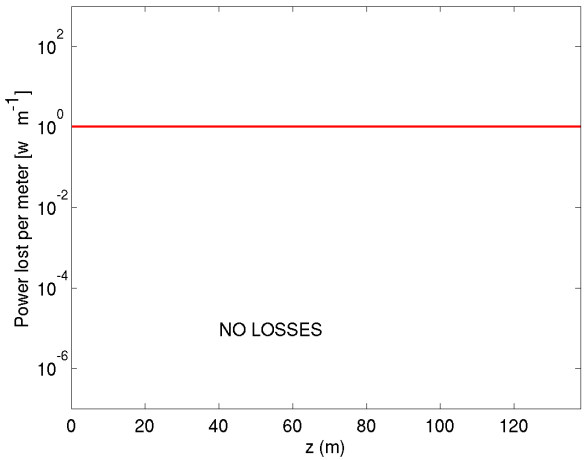


Figure: Losses [W·m^{-1}]



(67) Cavities $\phi_z = 2$ mrad

Figure: RMS Emittance X

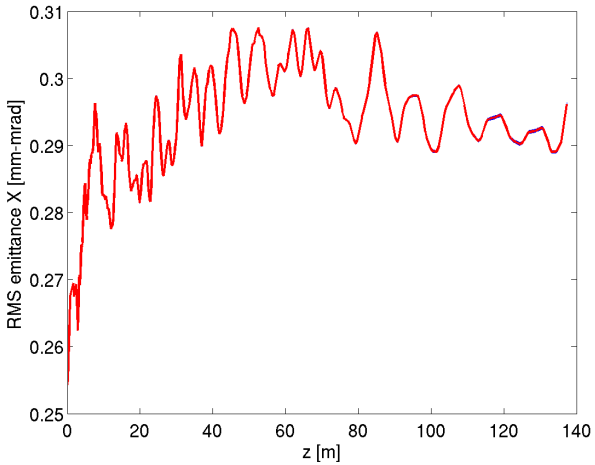


Figure: RMS Emittance Y

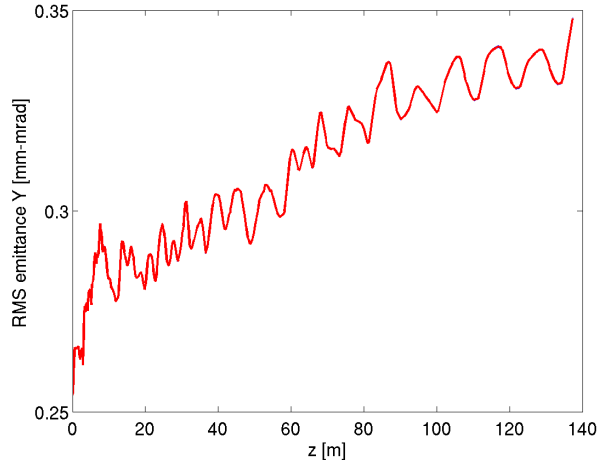


Figure: RMS Emittance z

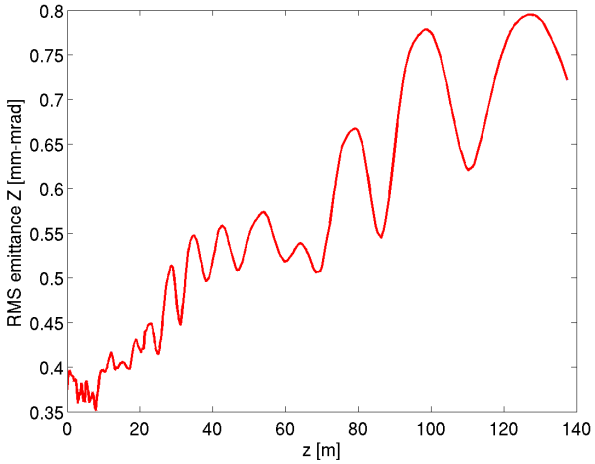
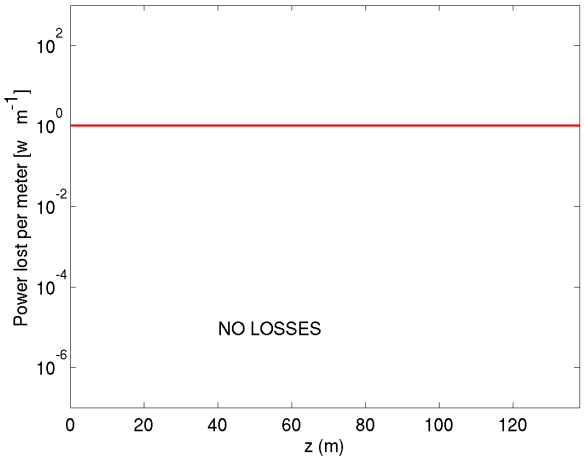


Figure: Losses [W·m^{-1}]



(68) Cavities $\phi_z = 5$ mrad

Figure: RMS Emittance X

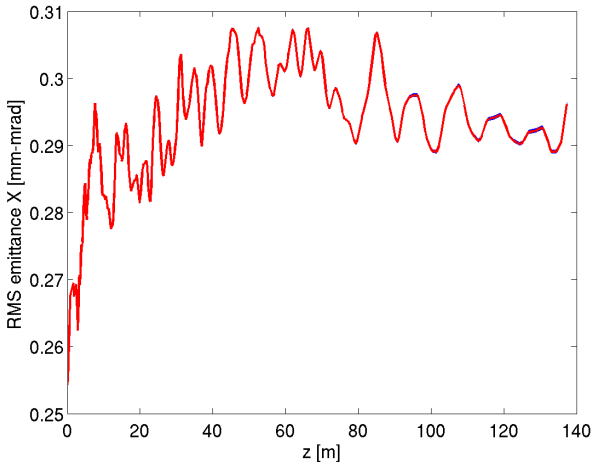


Figure: RMS Emittance Y

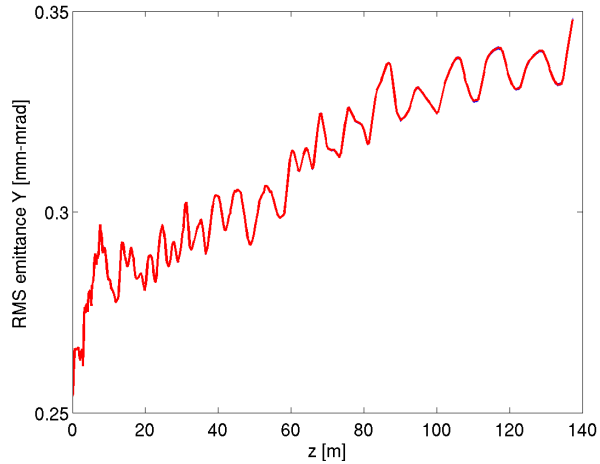


Figure: RMS Emittance Z

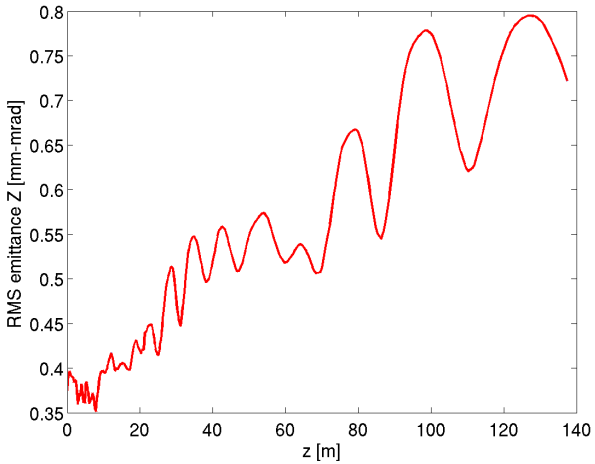
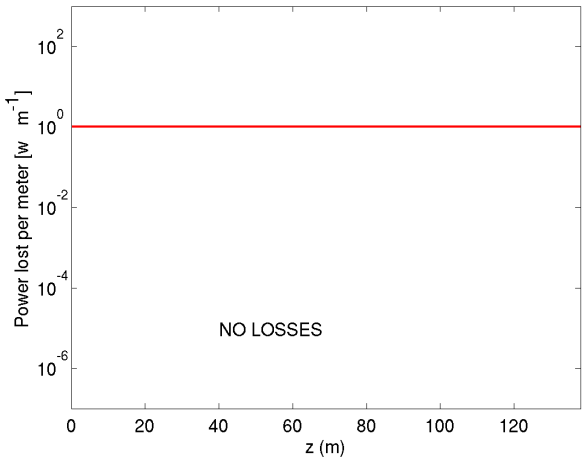


Figure: Losses [W·m^{-1}]



(69) Cavities $\phi_z = 7$ mrad

Figure: RMS Emittance X

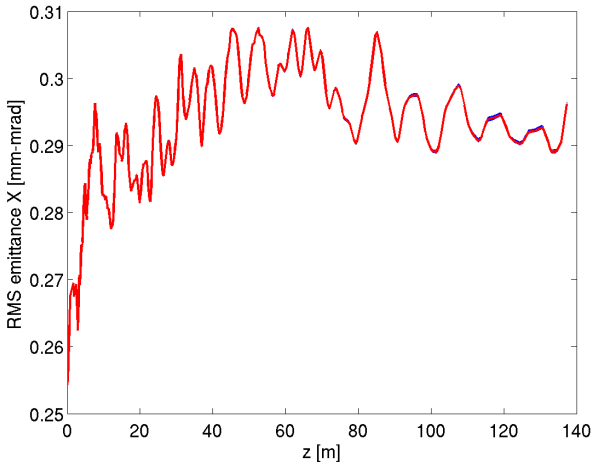


Figure: RMS Emittance Y

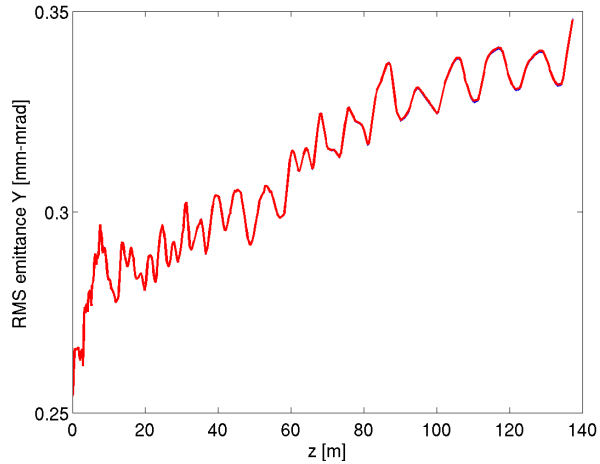


Figure: RMS Emittance Z

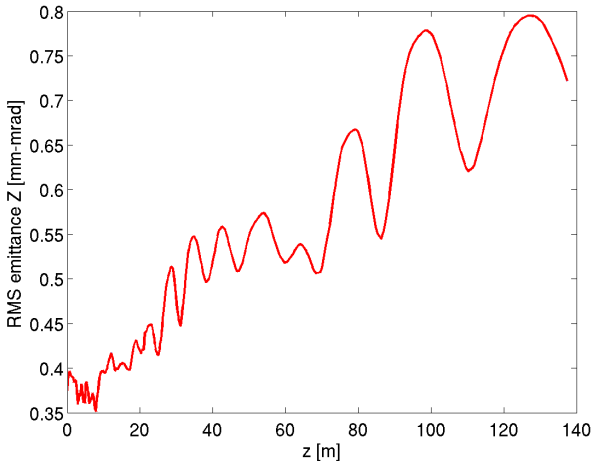
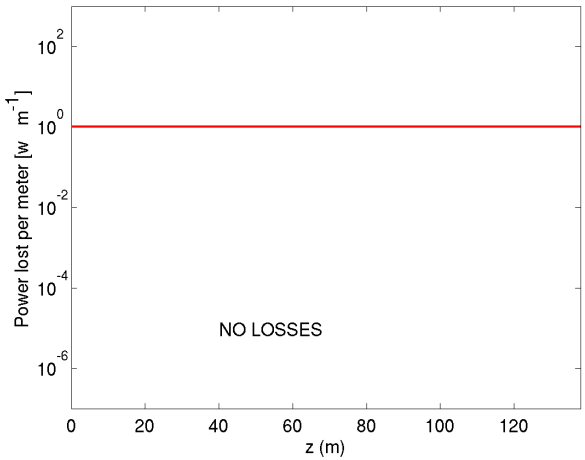


Figure: Losses [W·m^{-1}]



(70) Cavities $\phi_z = 10$ mrad

Figure: RMS Emittance X

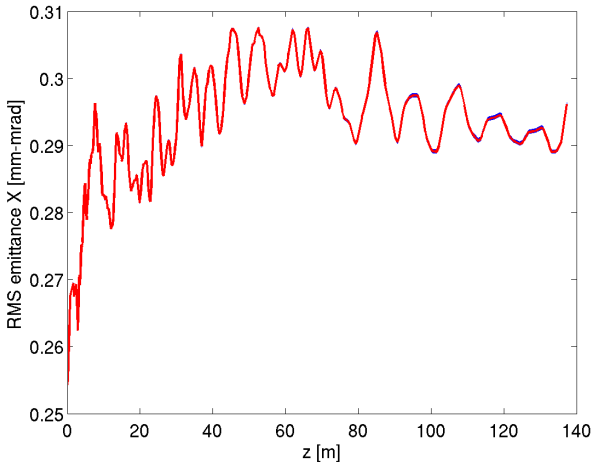


Figure: RMS Emittance Y

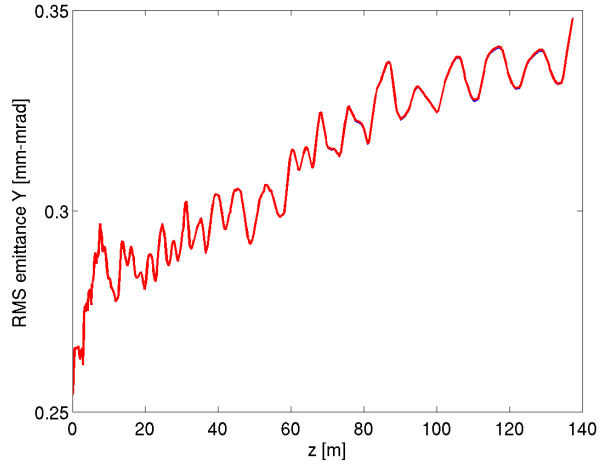


Figure: RMS Emittance Z

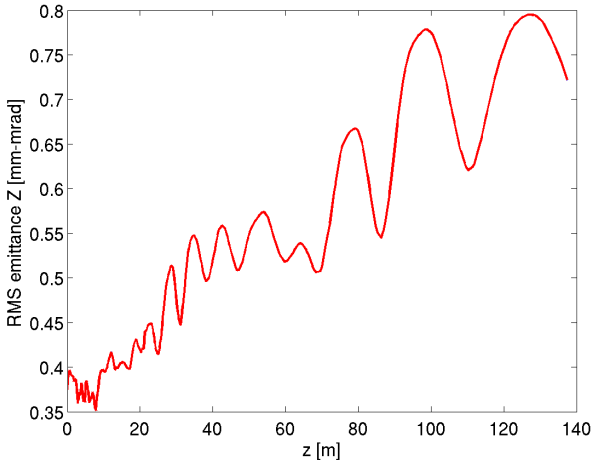
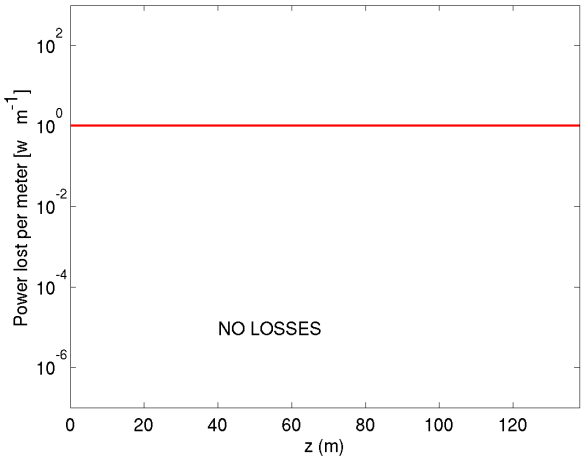


Figure: Losses [W·m^{-1}]



(71) Solenoids $\delta_x = \delta_y = 150\ \mu$m

Figure: RMS Emittance X

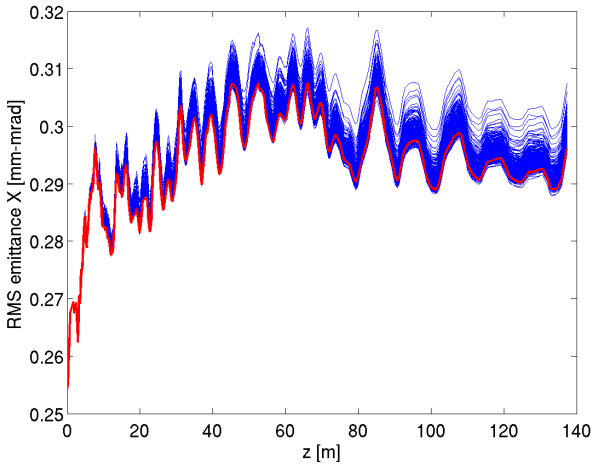


Figure: RMS Emittance Y

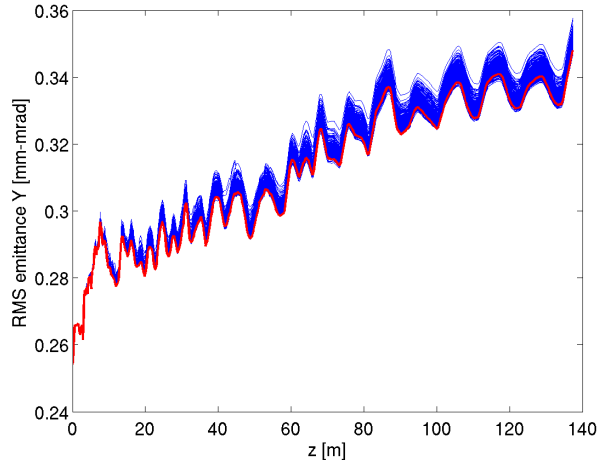


Figure: RMS Emittance Z

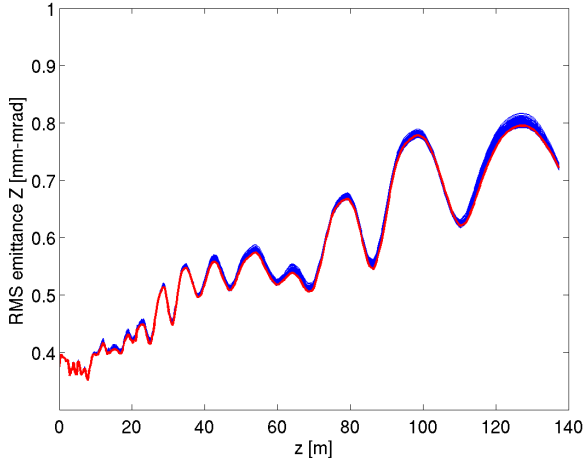
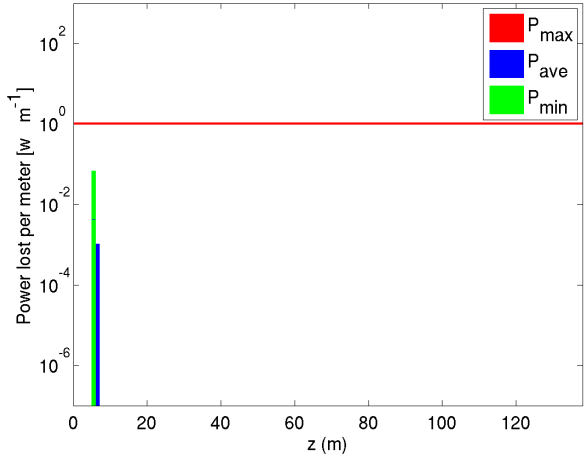


Figure: Losses [W·m^{-1}]



(72) Solenoids $\delta_x = \delta_y = 300\ \mu$m

Figure: RMS Emittance X

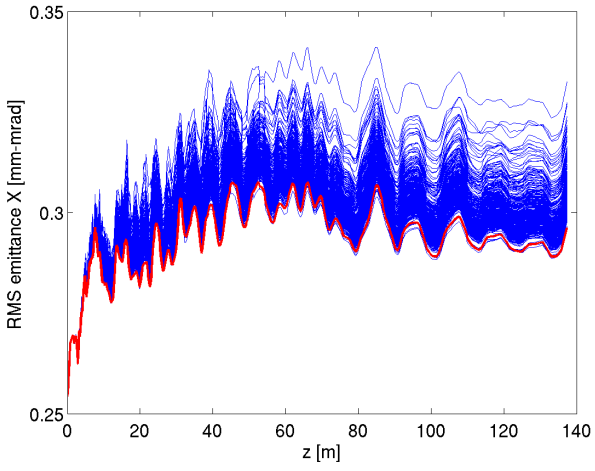


Figure: RMS Emittance Y

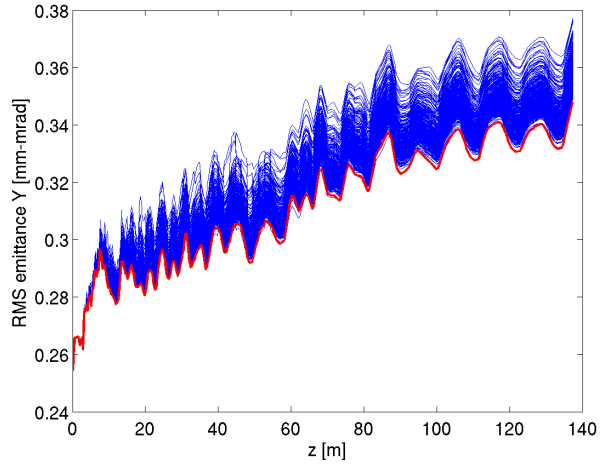


Figure: RMS Emittance Z

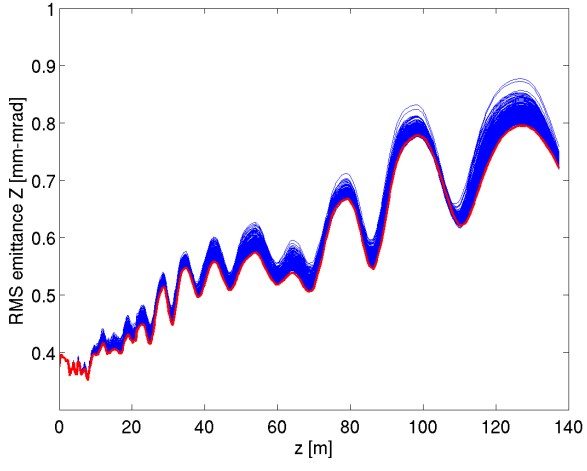
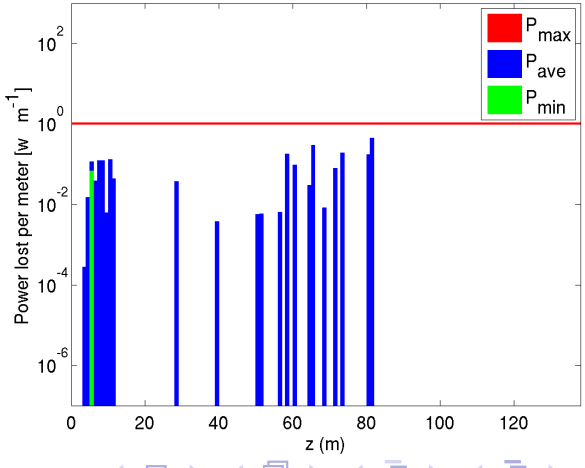


Figure: Losses [W·m^{-1}]



(73) Solenoids $\delta_x = \delta_y = 500\ \mu$m

Figure: RMS Emittance X

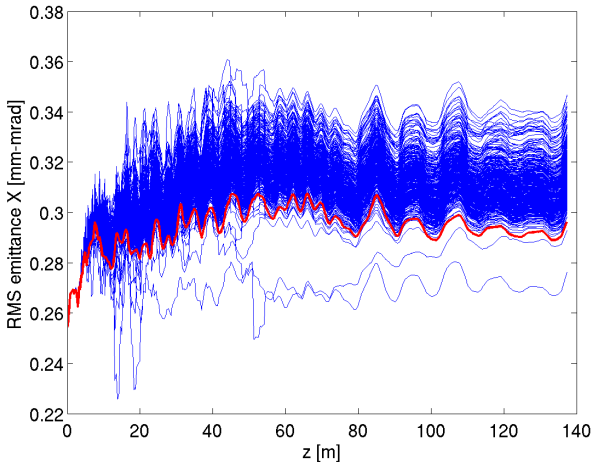


Figure: RMS Emittance Y

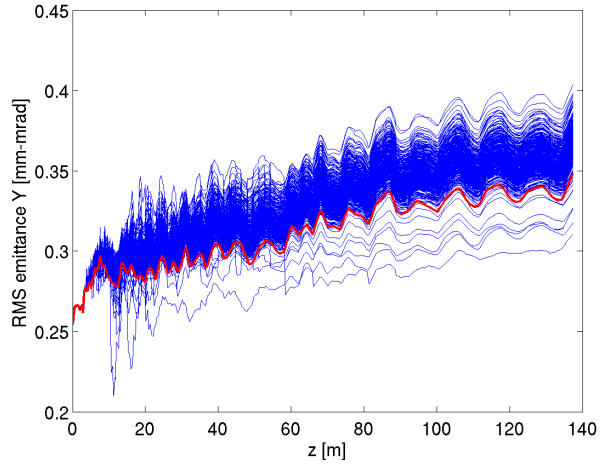


Figure: RMS Emittance Z

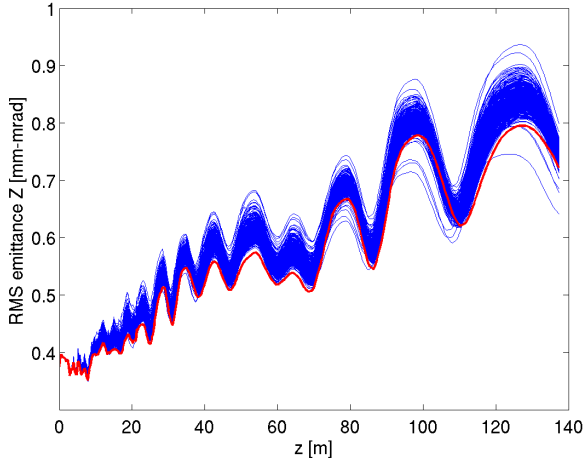
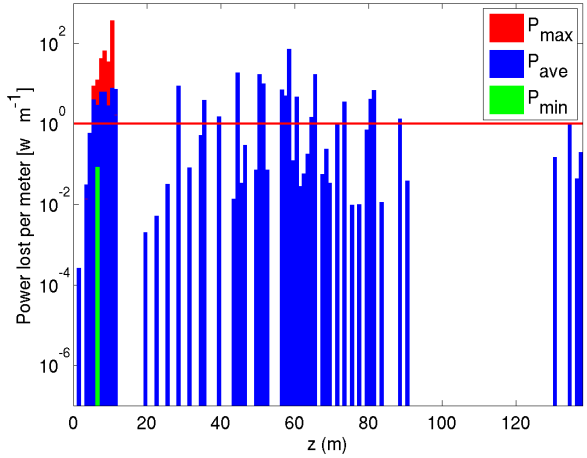


Figure: Losses [W·m^{-1}]



(74) Solenoids $\delta_x = \delta_y = 750\ \mu$m

Figure: RMS Emittance X

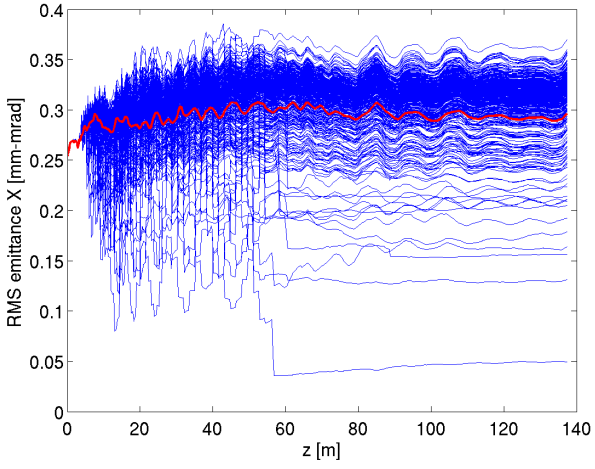


Figure: RMS Emittance Y

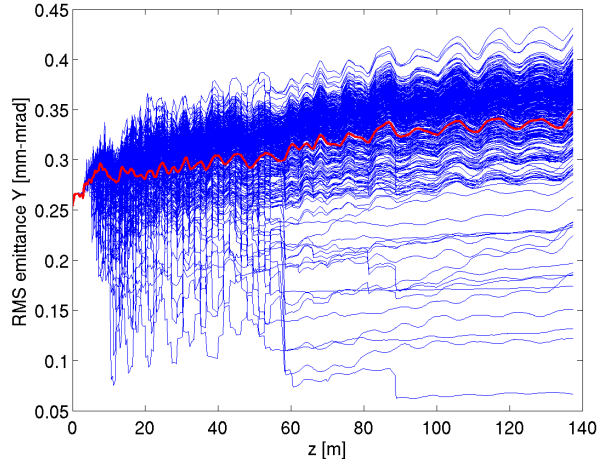


Figure: RMS Emittance Z

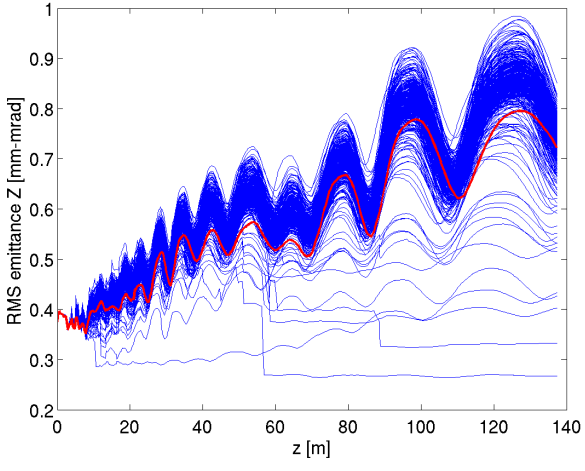
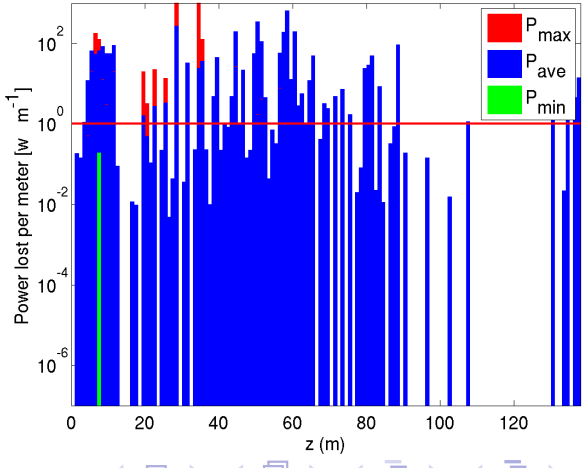


Figure: Losses [W·m^{-1}]



(75) Solenoids $\delta_x = \delta_y = 1000\ \mu$m

Figure: RMS Emittance X

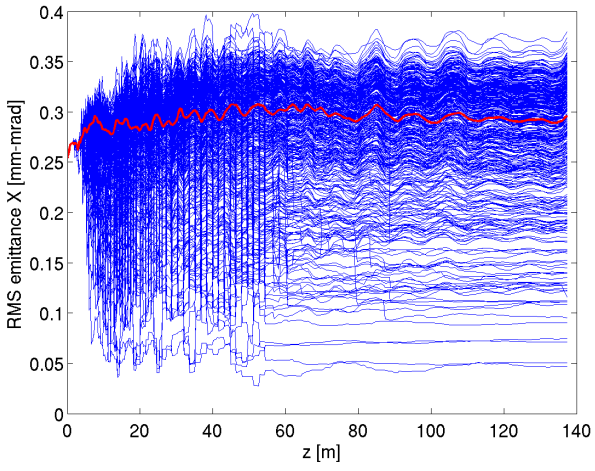


Figure: RMS Emittance Y

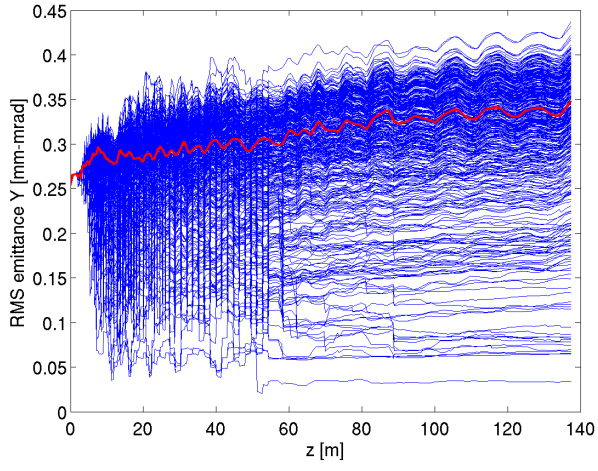


Figure: RMS Emittance Z

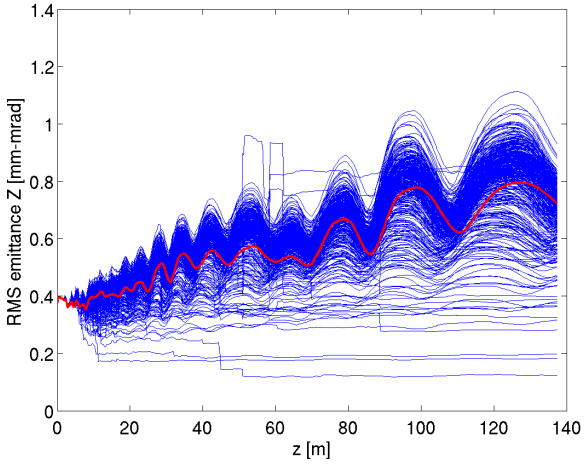
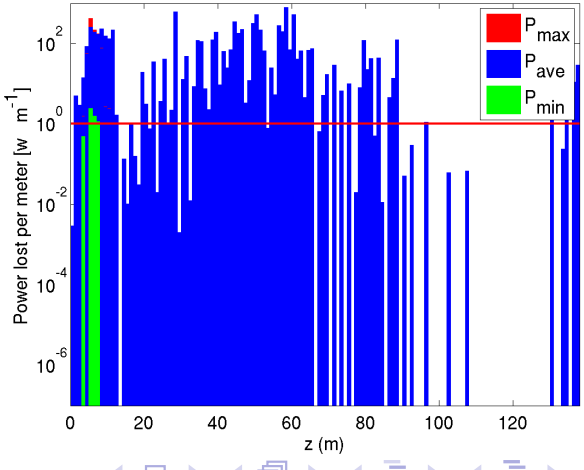


Figure: Losses [W·m^{-1}]



(76) Solenoids $\delta_z = 150\ \mu$m

Figure: RMS Emittance X

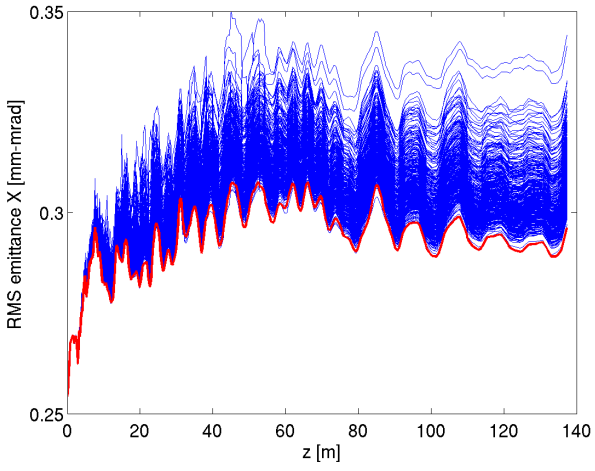


Figure: RMS Emittance Y

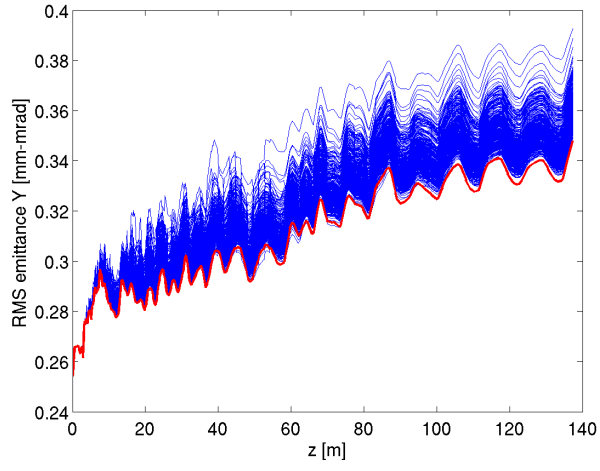


Figure: RMS Emittance Z

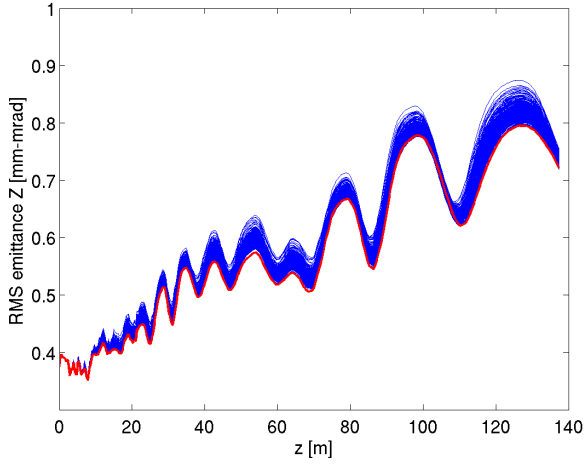
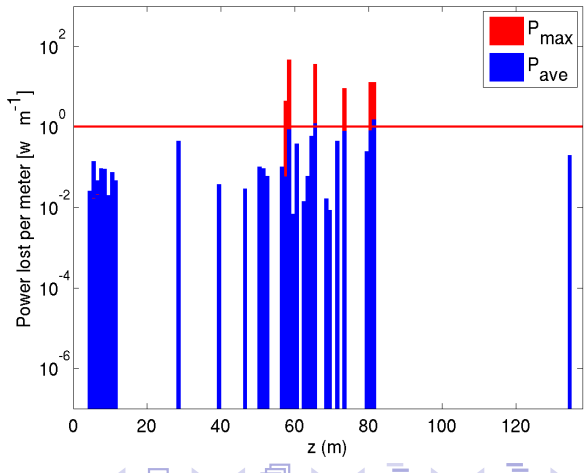


Figure: Losses [W·m^{-1}]



(77) Solenoids $\delta_z = 300\ \mu$m

Figure: RMS Emittance X

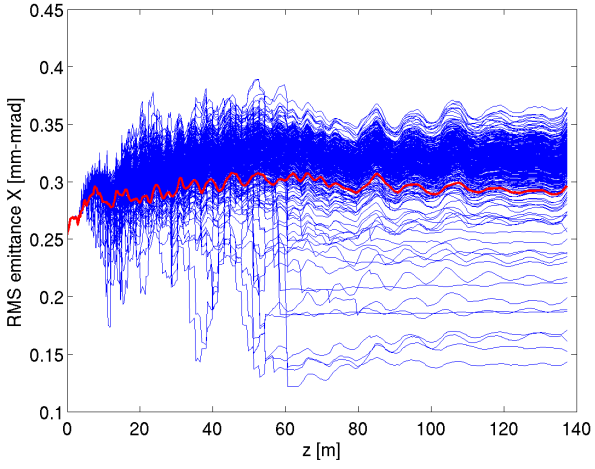


Figure: RMS Emittance Y

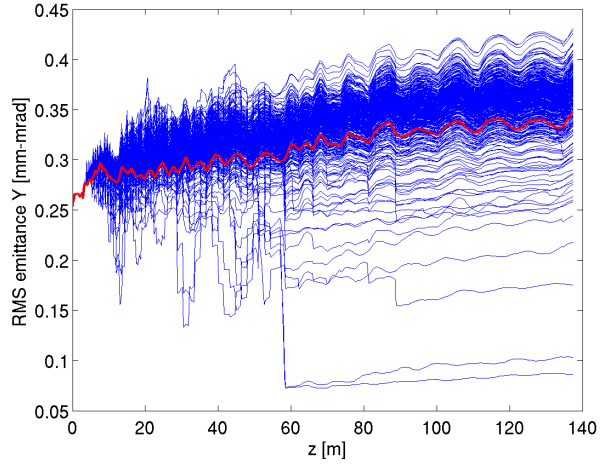


Figure: RMS Emittance Z

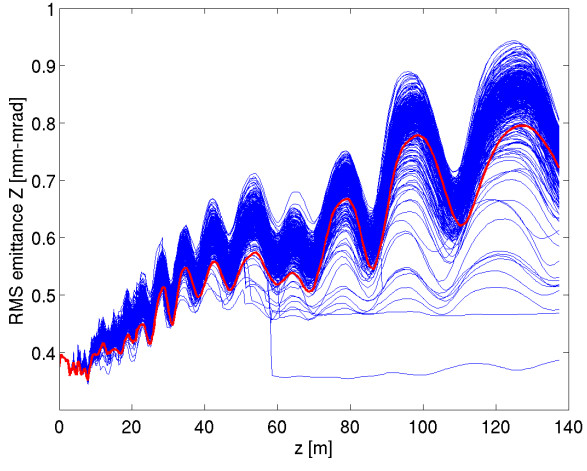
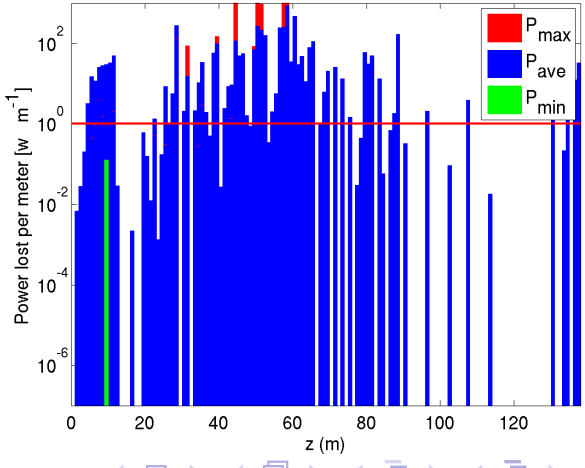


Figure: Losses [W·m^{-1}]



(78) Solenoids $\delta_z = 500\ \mu$m

Figure: RMS Emittance X

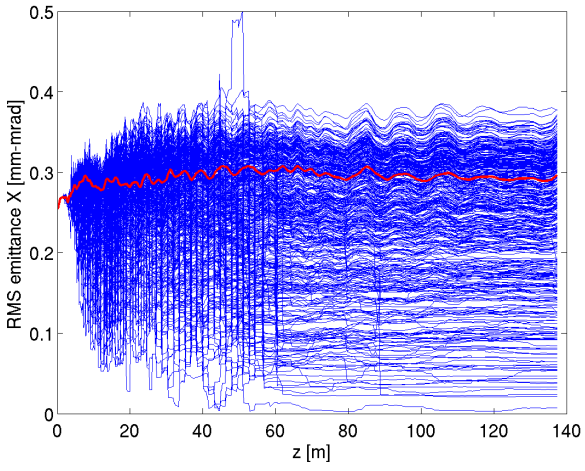


Figure: RMS Emittance Y

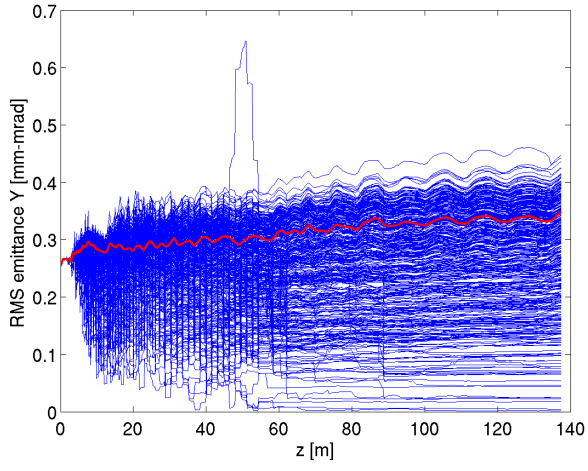


Figure: RMS Emittance Z

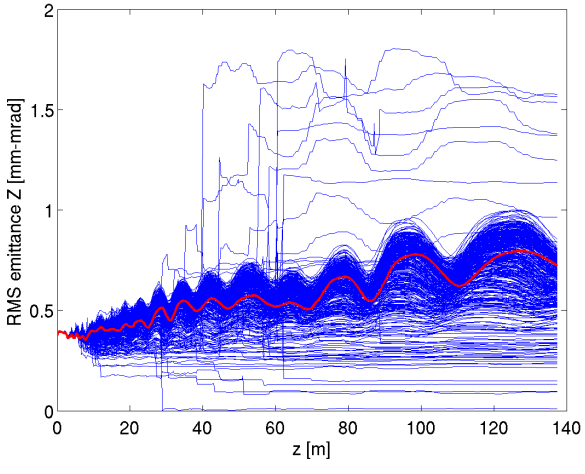
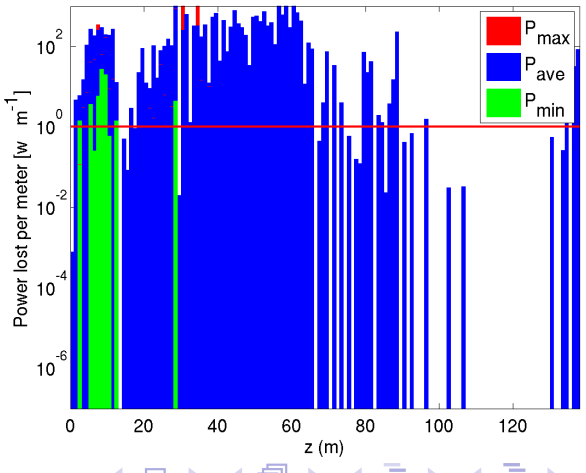


Figure: Losses [W·m^{-1}]



(79) Solenoids $\delta_z = 750\ \mu$m

Figure: RMS Emittance X

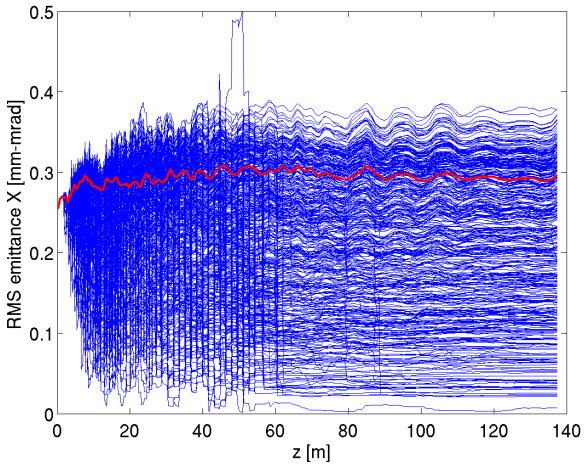


Figure: RMS Emittance Y

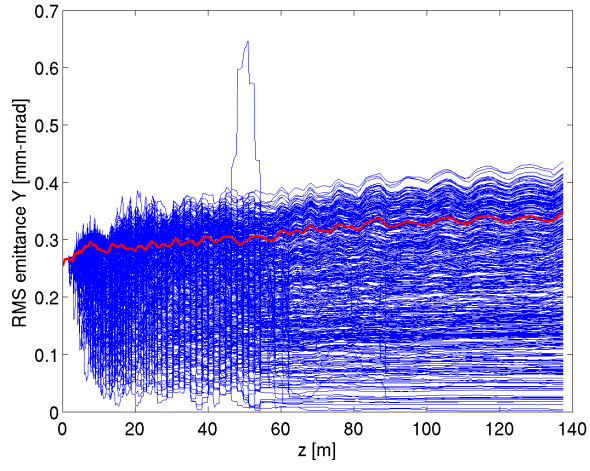


Figure: RMS Emittance Z

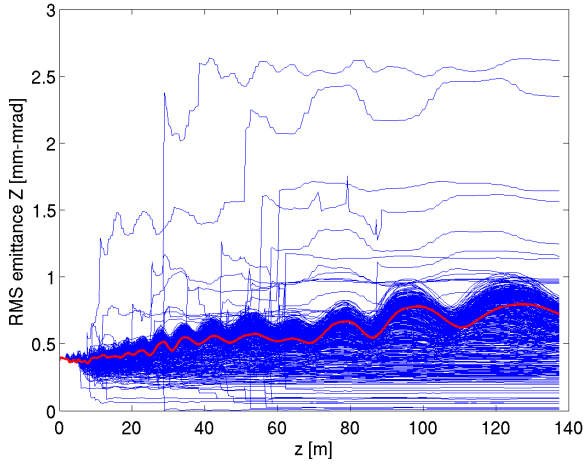
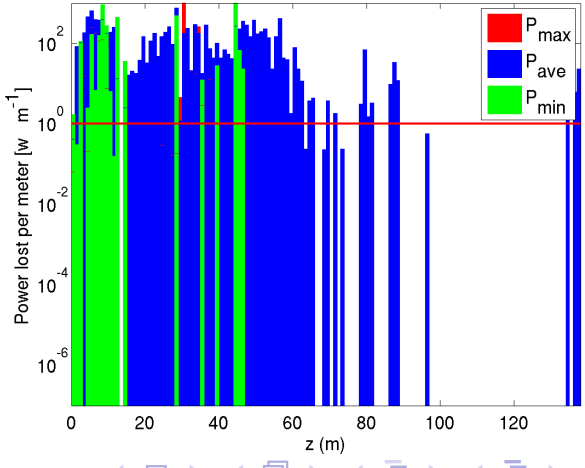


Figure: Losses [W·m^{-1}]



(80) Solenoids $\delta_z = 1000\ \mu$m

Figure: RMS Emittance X

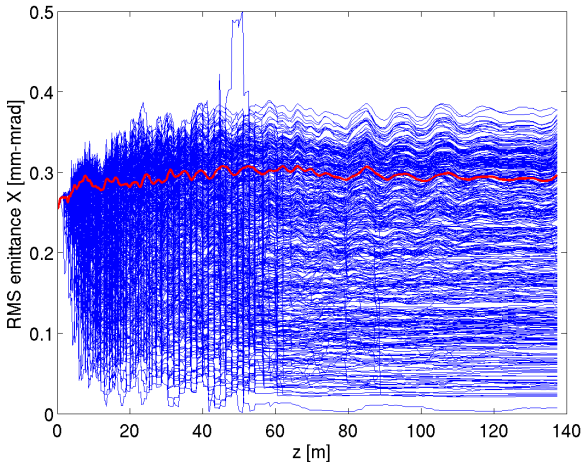


Figure: RMS Emittance Y

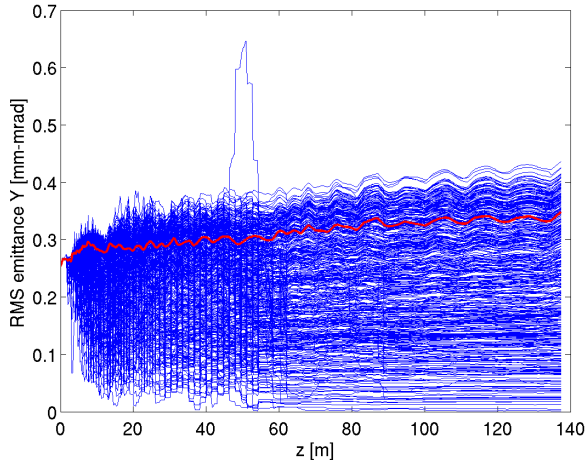


Figure: RMS Emittance Z

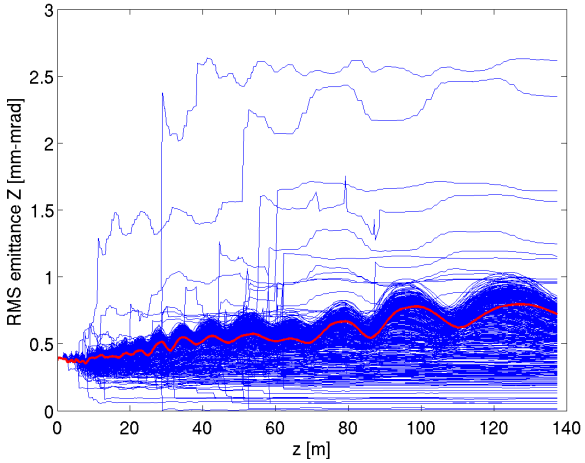
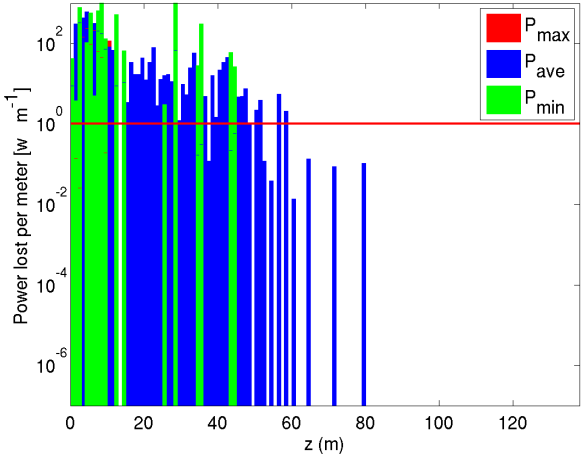


Figure: Losses [W·m^{-1}]



(81) Solenoids $\phi_x = \phi_y = 1$ mrad

Figure: RMS Emittance X

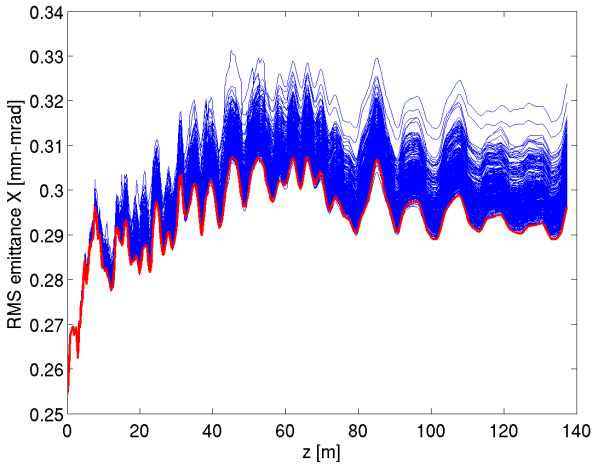


Figure: RMS Emittance Y

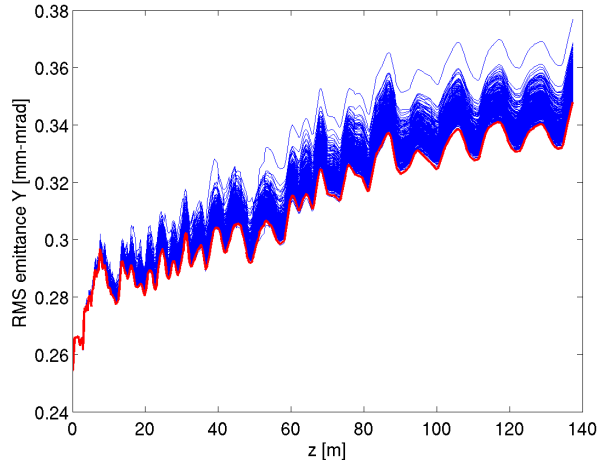


Figure: RMS Emittance Z

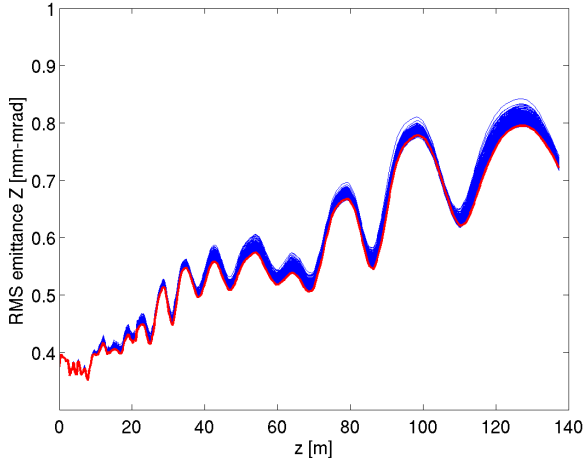
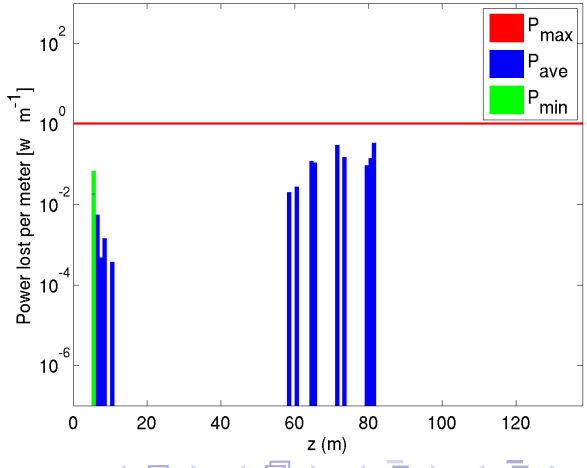


Figure: Losses [W·m^{-1}]



(82) Solenoids $\phi_x = \phi_y = 2$ mrad

Figure: RMS Emittance X

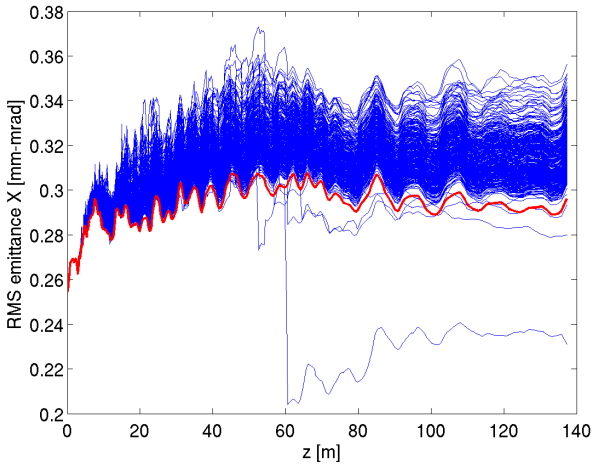


Figure: RMS Emittance Y

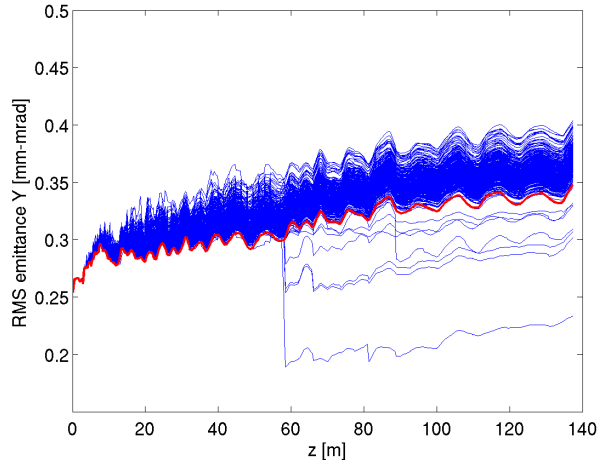


Figure: RMS Emittance Z

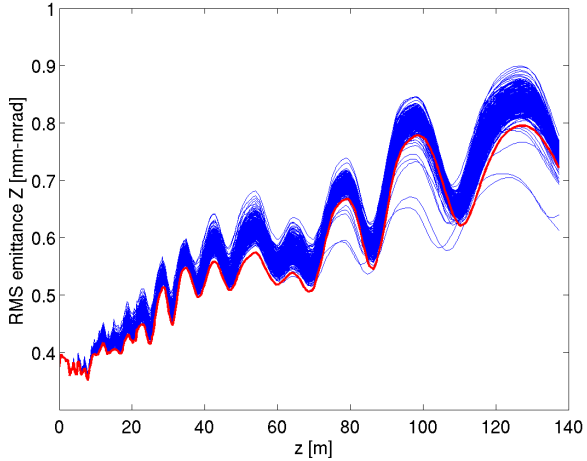
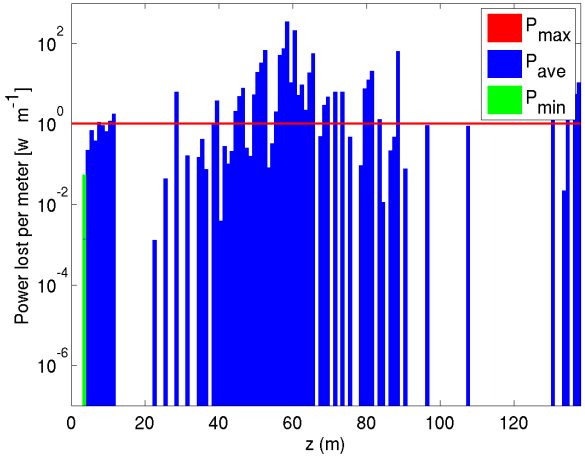


Figure: Losses [W·m^{-1}]



(83) Solenoids $\phi_x = \phi_y = 5$ mrad

Figure: RMS Emittance X

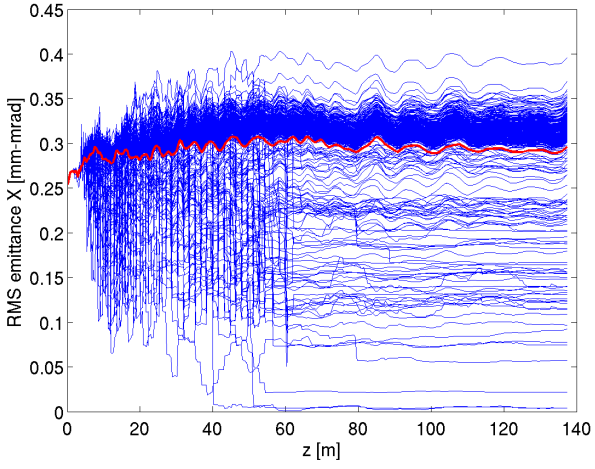


Figure: RMS Emittance Y

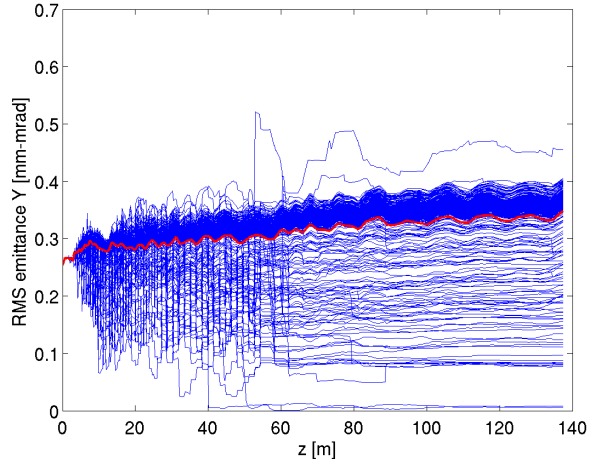


Figure: RMS Emittance Z

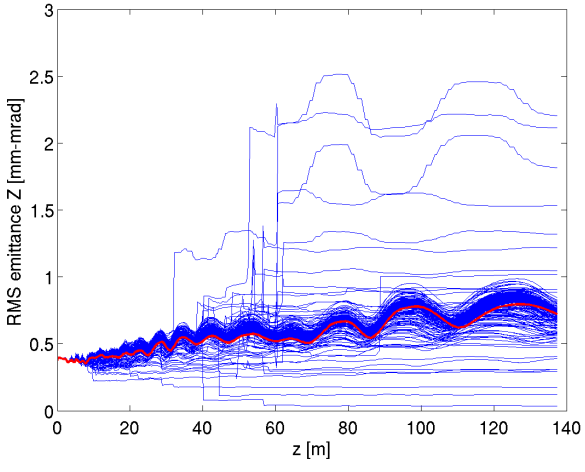
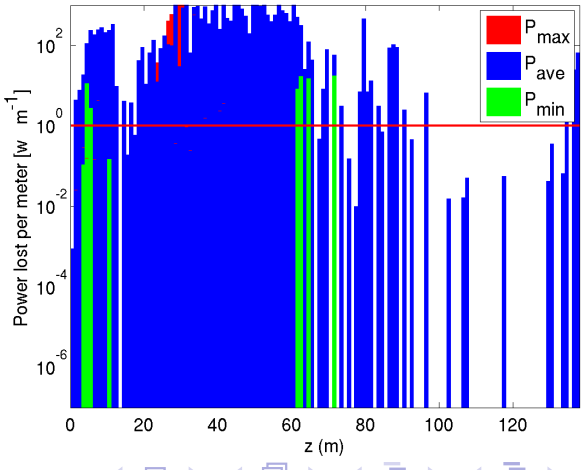


Figure: Losses [W·m^{-1}]



(84) Solenoids $\phi_x = \phi_y = 7$ mrad

Figure: RMS Emittance X

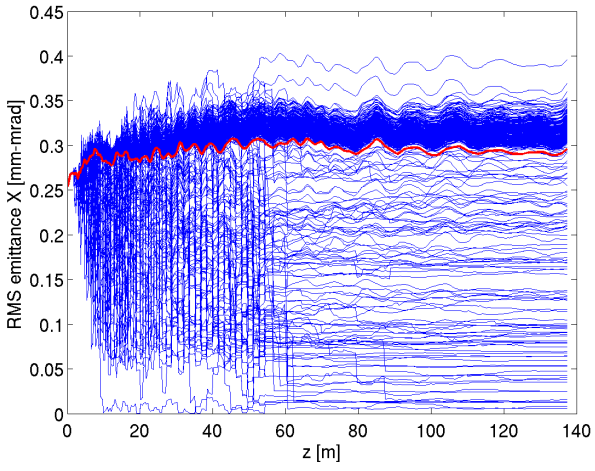


Figure: RMS Emittance Y

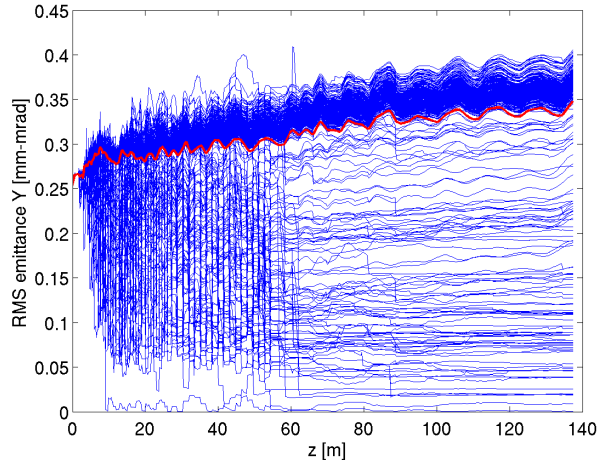


Figure: RMS Emittance Z

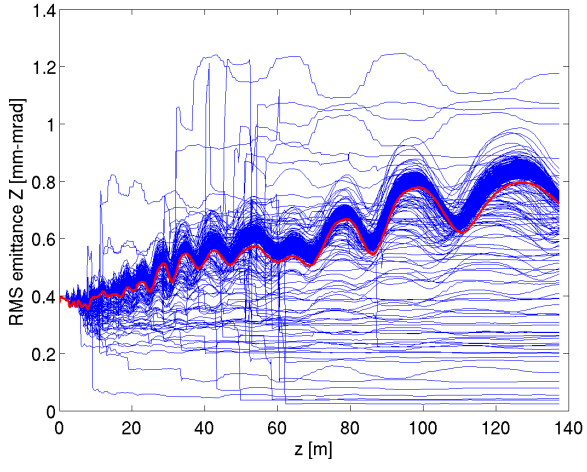
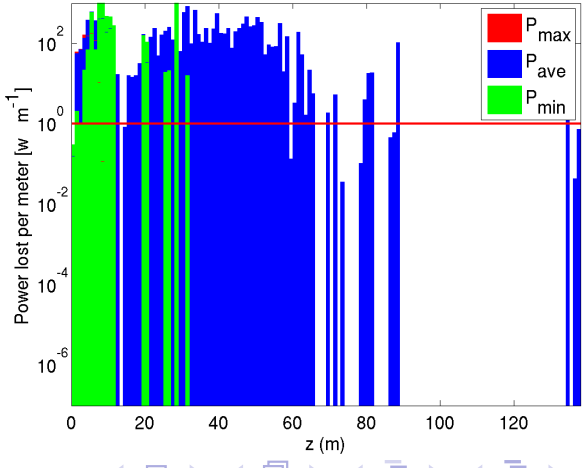


Figure: Losses [W·m^{-1}]



(85) Solenoids $\phi_x = \phi_y = 10$ mrad

Figure: RMS Emittance X

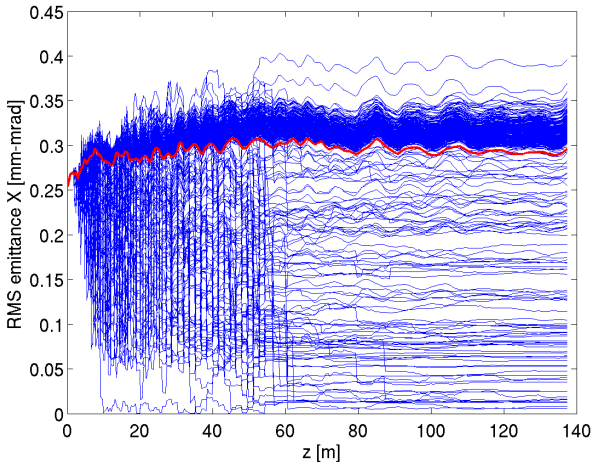


Figure: RMS Emittance Y

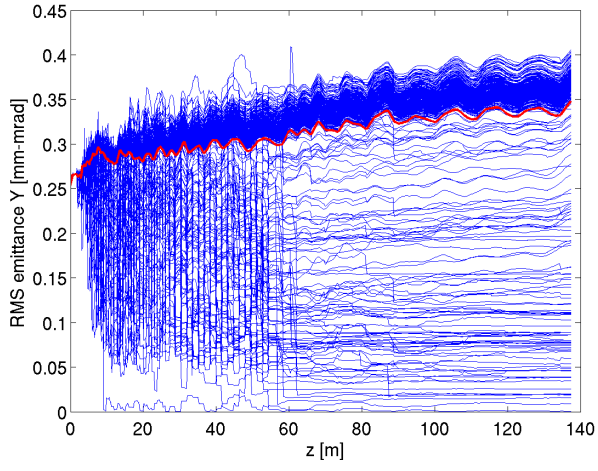


Figure: RMS Emittance Z

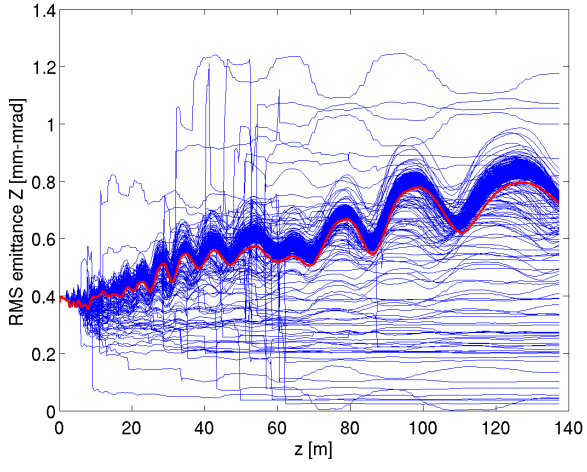
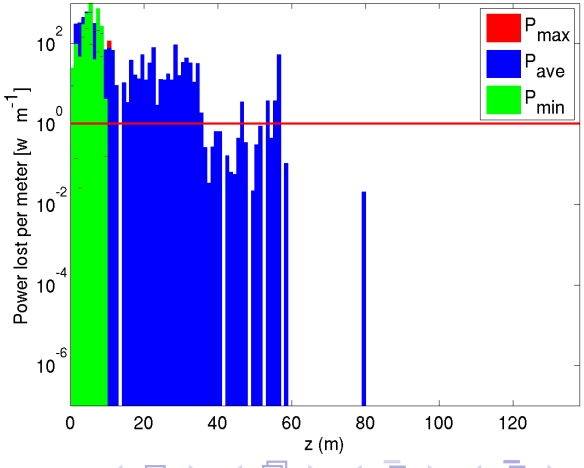


Figure: Losses [W·m^{-1}]



(86) Solenoids Field $\delta F_{dynamic} = 0.5$ %

Figure: RMS Emittance X

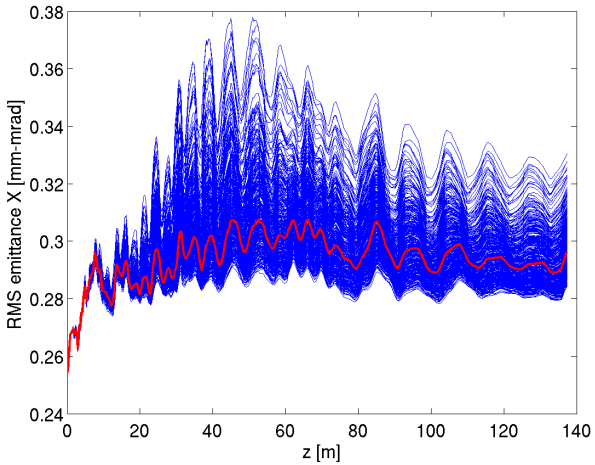


Figure: RMS Emittance Y

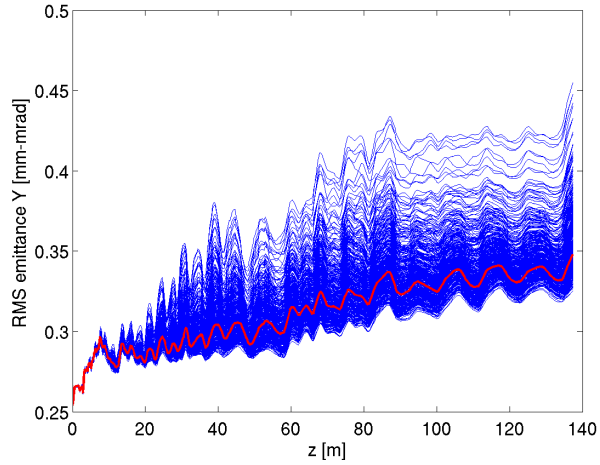


Figure: RMS Emittance Z

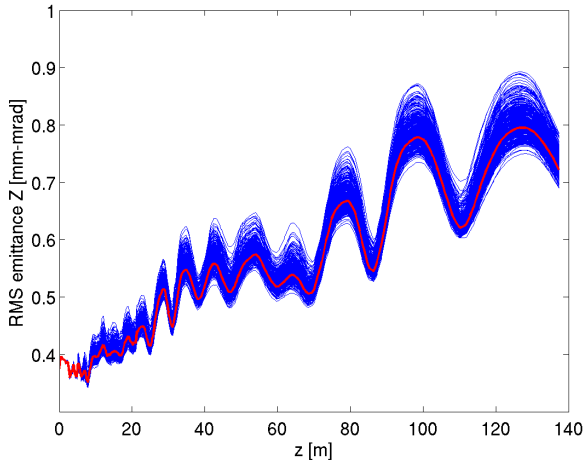
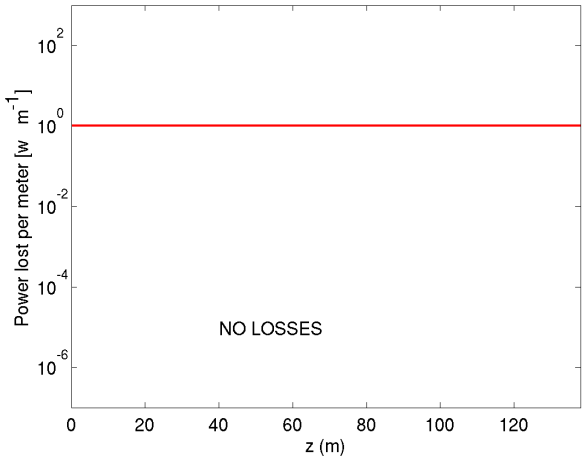


Figure: Losses [W·m^{-1}]



(87) Solenoids Field $\delta F_{dynamic} = 1.0$ %

Figure: RMS Emittance X

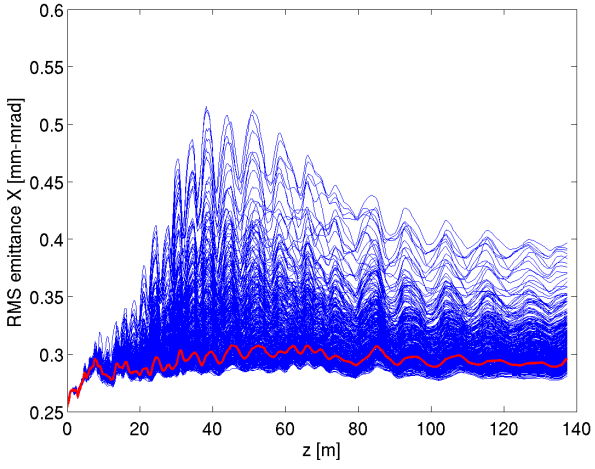


Figure: RMS Emittance Y

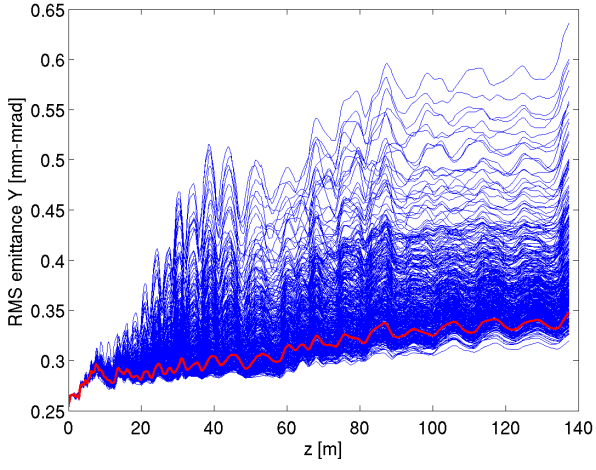


Figure: RMS Emittance z

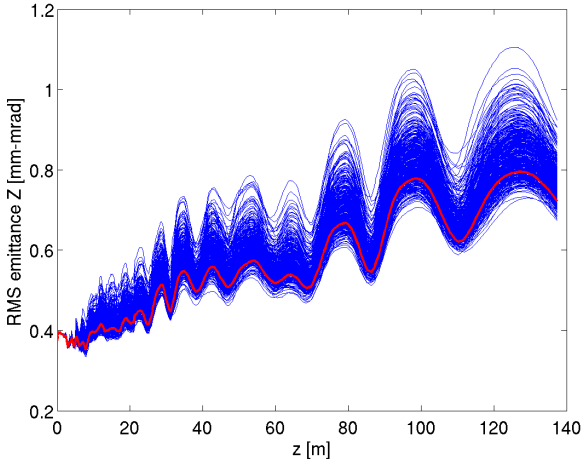
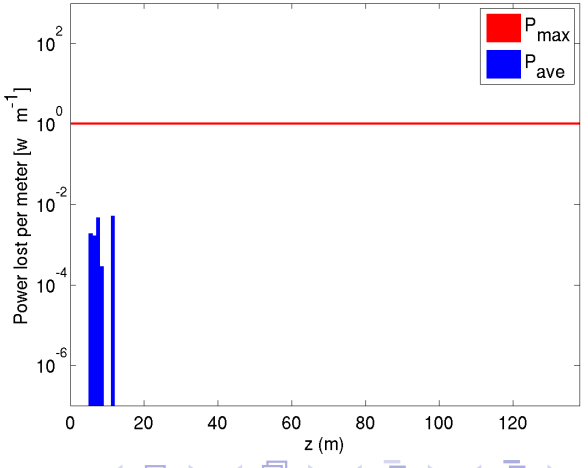


Figure: Losses [W·m^{-1}]



(88) Solenoids Field $\delta F_{dynamic} = 1.5\ \%$

Figure: RMS Emittance X

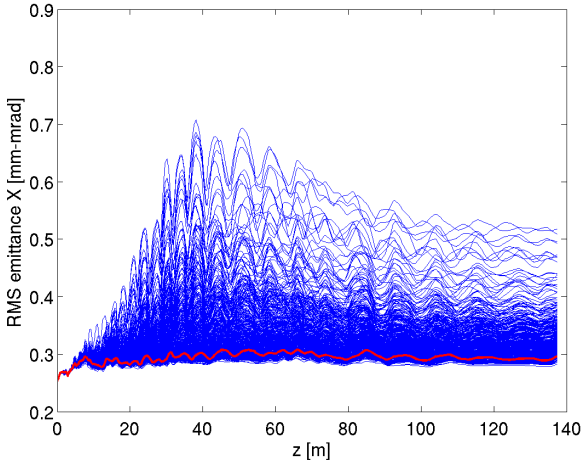


Figure: RMS Emittance Y

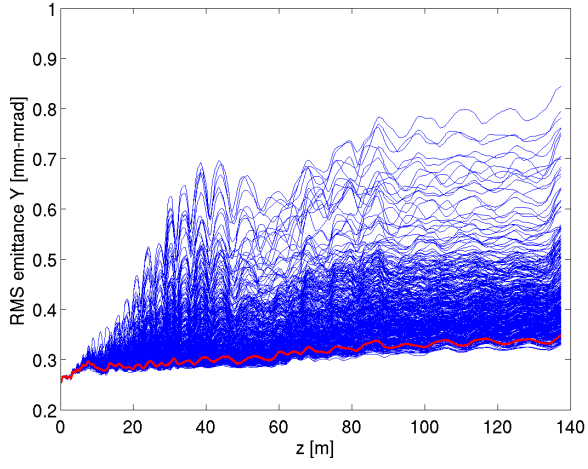


Figure: RMS Emittance Z

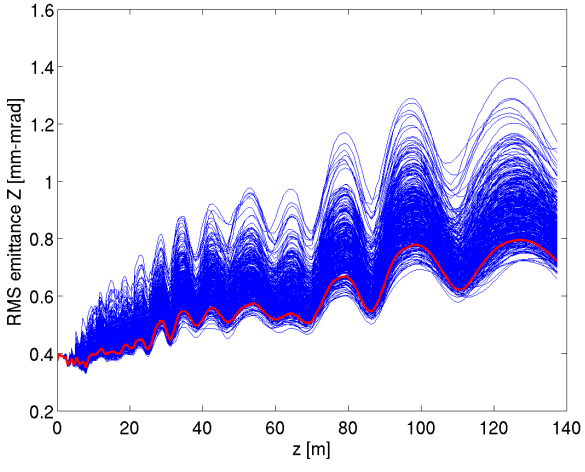
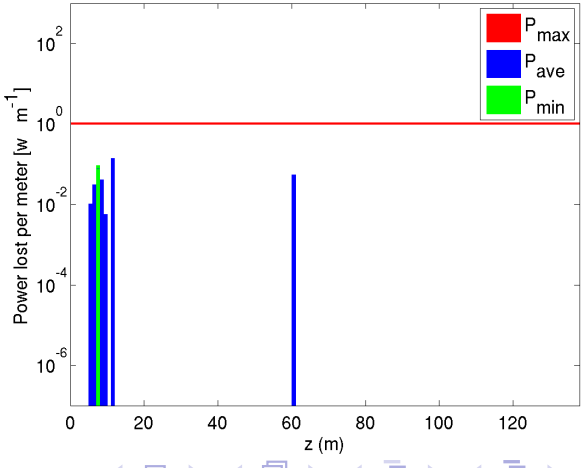


Figure: Losses [W·m^{-1}]



(89) Solenoids Field $\delta F_{dynamic} = 2.0$ %

Figure: RMS Emittance X

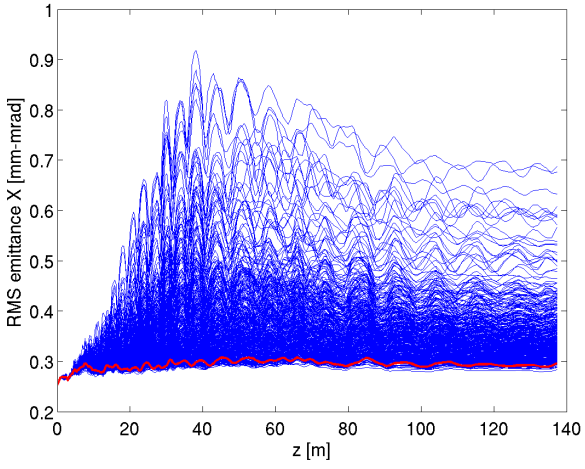


Figure: RMS Emittance Y

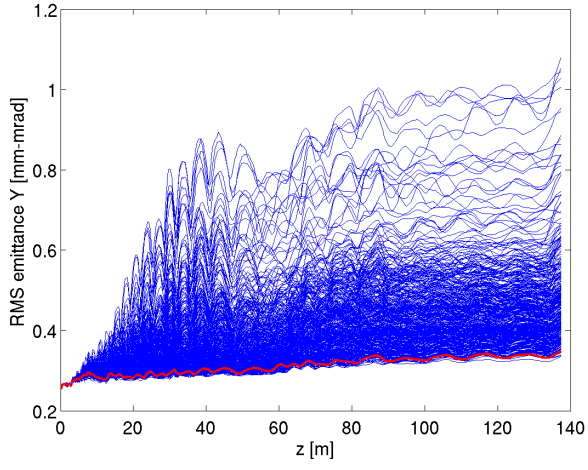


Figure: RMS Emittance Z

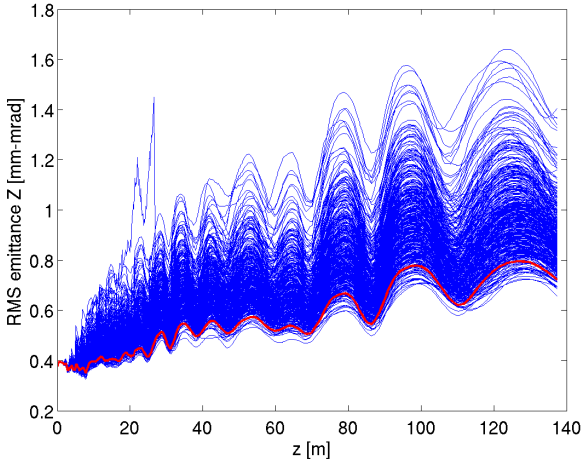
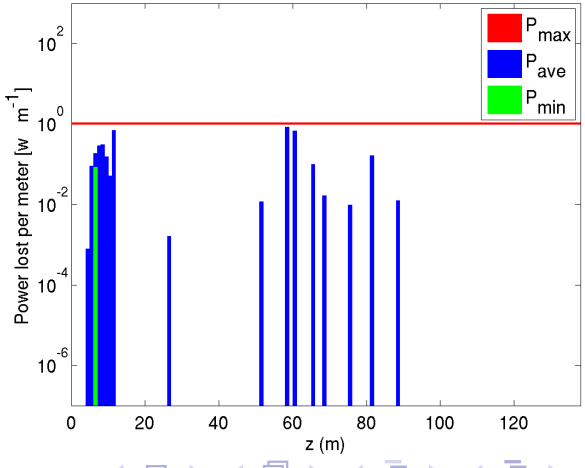


Figure: Losses [W·m^{-1}]



(90) Solenoids Field $\delta F_{dynamic} = 2.5\ \%$

Figure: RMS Emittance X

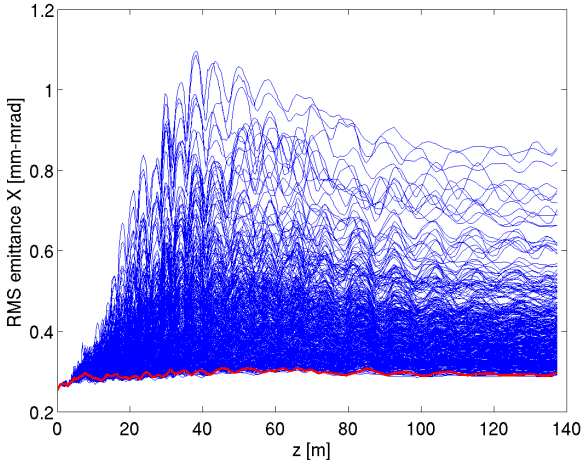


Figure: RMS Emittance Y

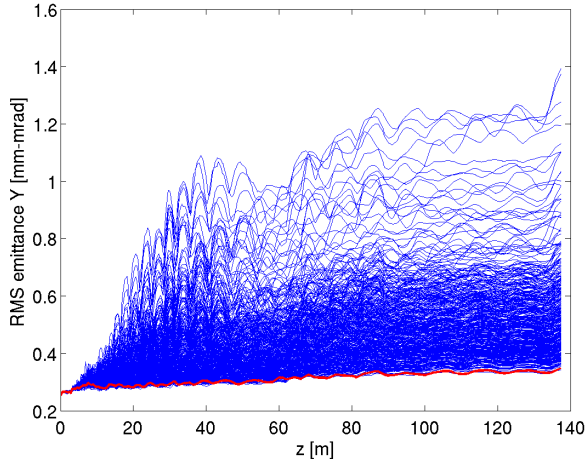


Figure: RMS Emittance Z

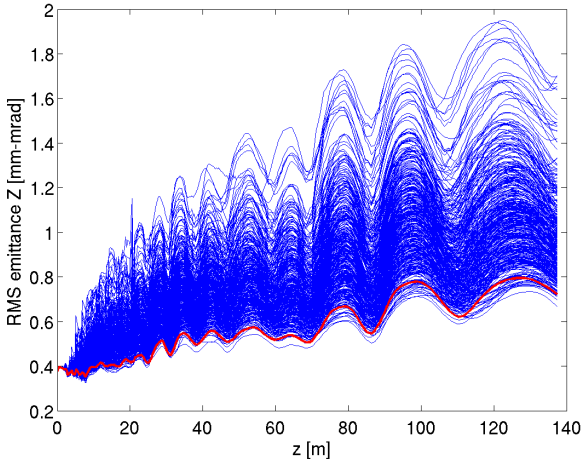
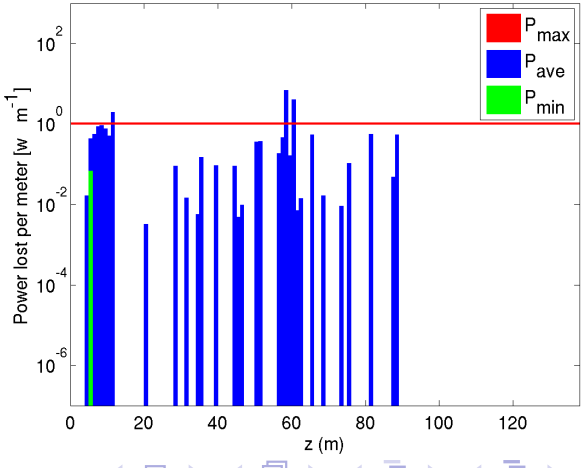


Figure: Losses [W·m^{-1}]



(91) Solenoids Field $\delta F_{static} = 0.5$ %

Figure: RMS Emittance X

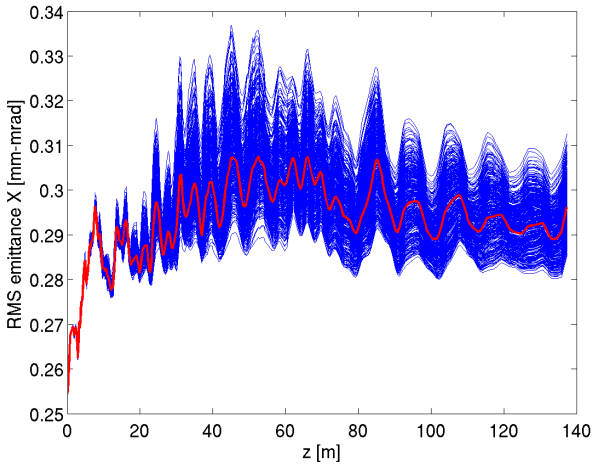


Figure: RMS Emittance Y

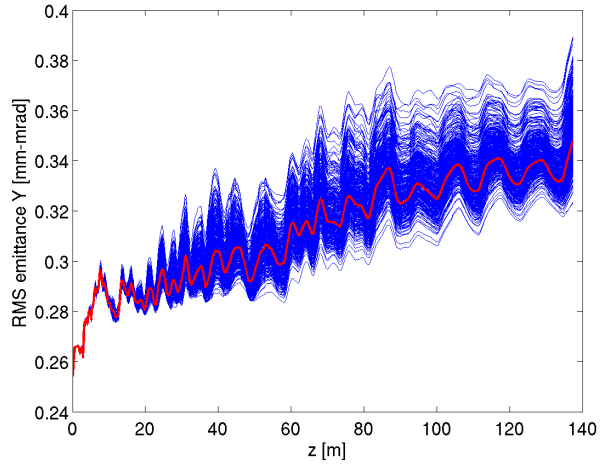


Figure: RMS Emittance Z

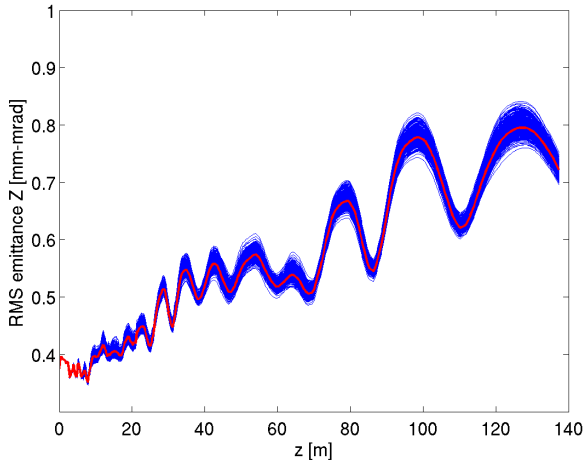
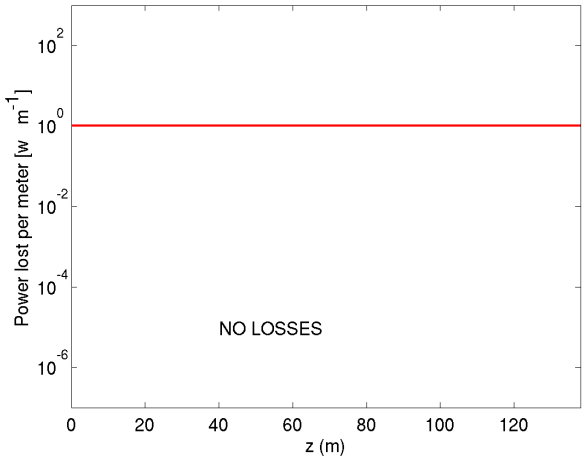


Figure: Losses [W·m^{-1}]



(92) Solenoids Field $\delta F_{static} = 1.0$ %

Figure: RMS Emittance X

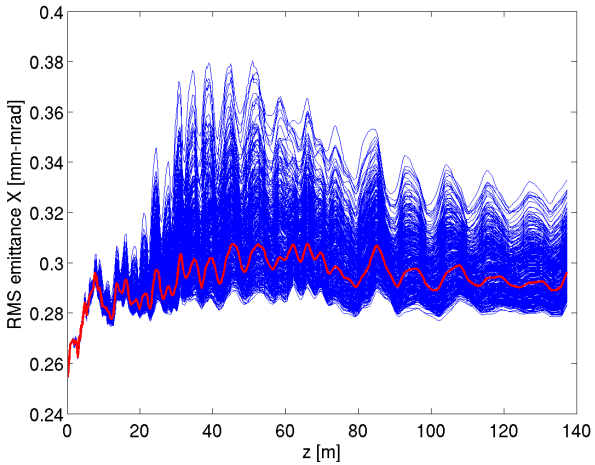


Figure: RMS Emittance Y

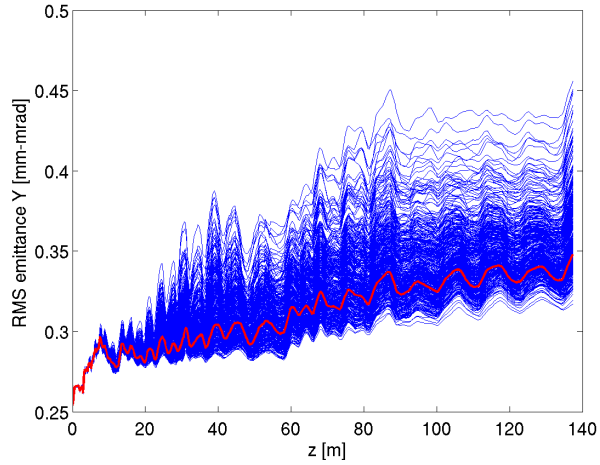


Figure: RMS Emittance Z

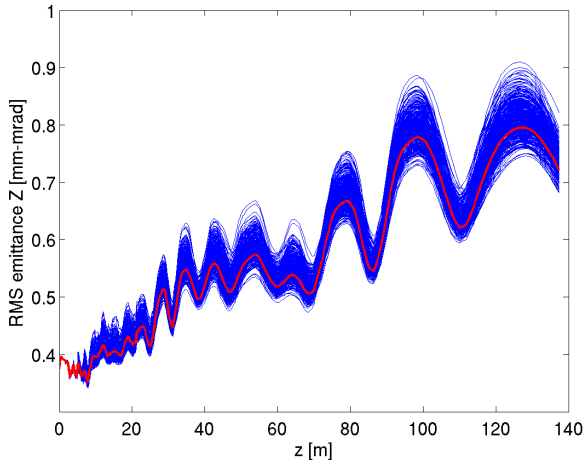
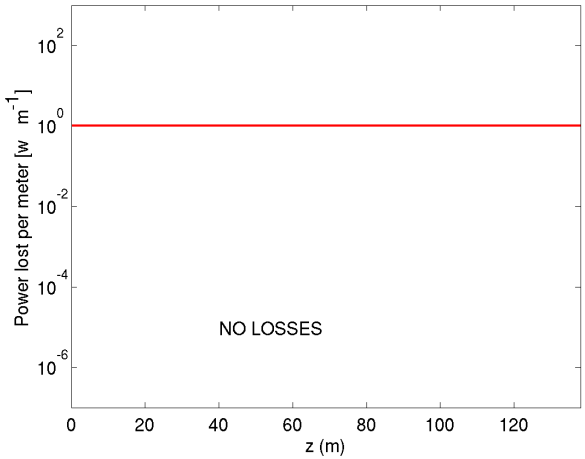


Figure: Losses [W·m^{-1}]



(53) Solenoids Field $\delta F_{static} = 1.5$ %

Figure: RMS Emittance X

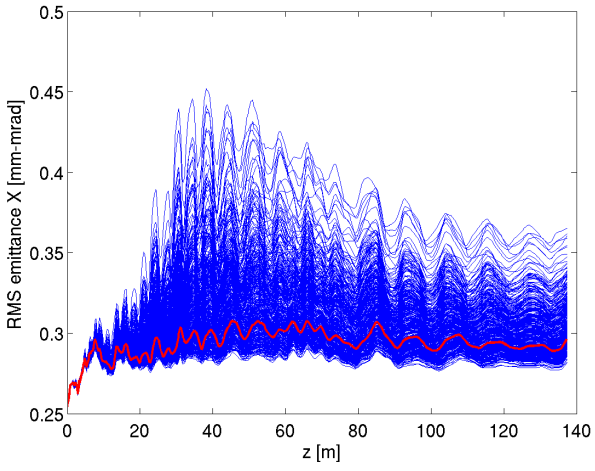


Figure: RMS Emittance Y

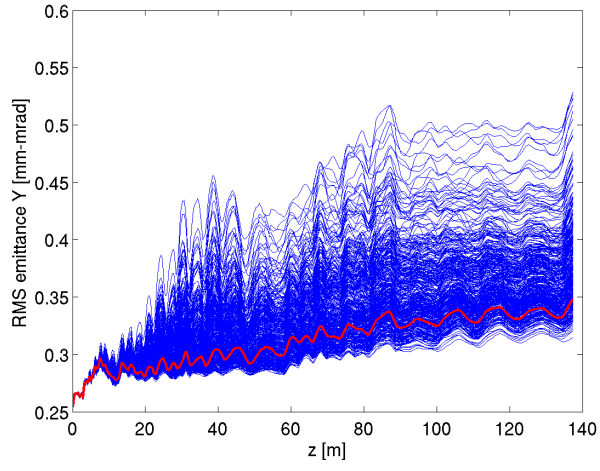


Figure: RMS Emittance Z

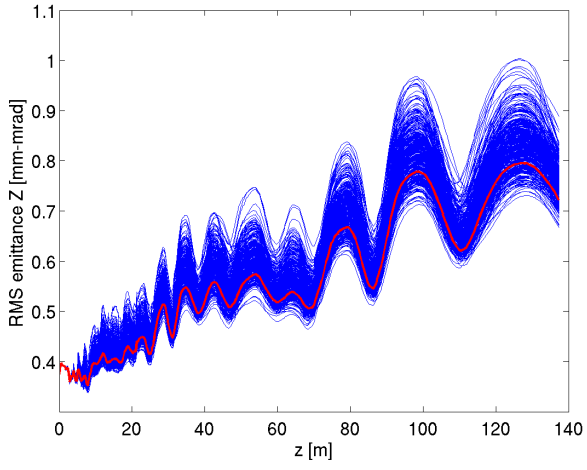
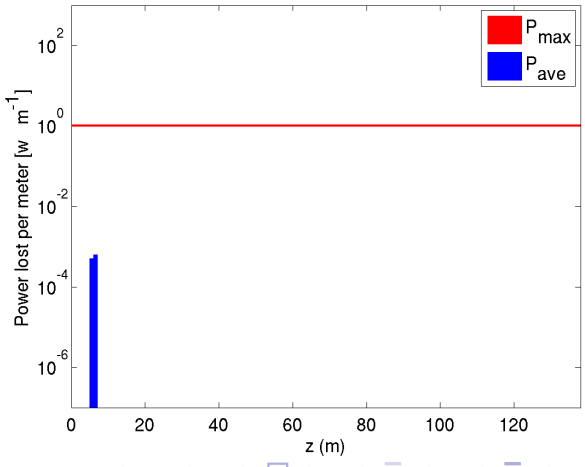


Figure: Losses [W·m^{-1}]



(94) Solenoids Field $\delta F_{static} = 2.0$ %

Figure: RMS Emittance X

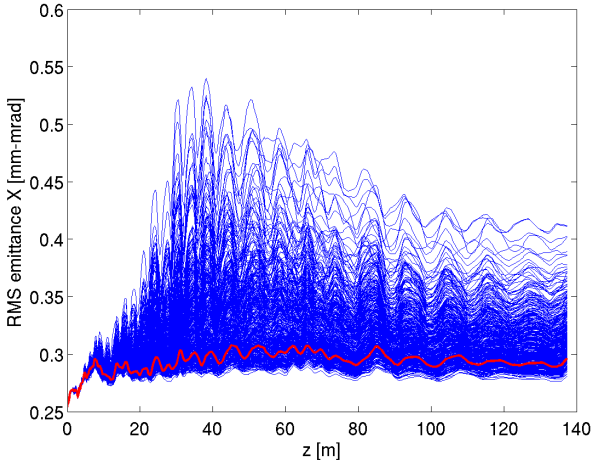


Figure: RMS Emittance Y

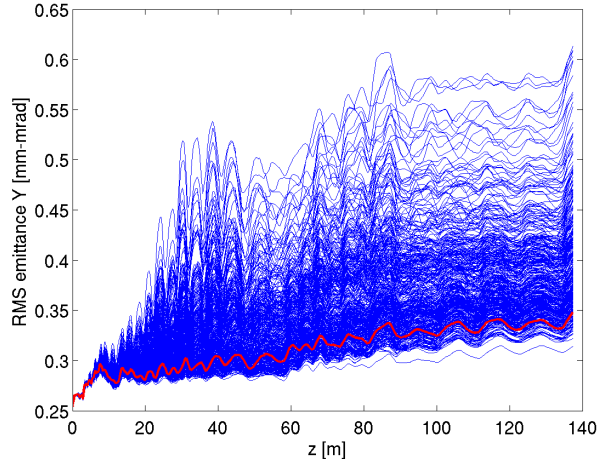


Figure: RMS Emittance Z

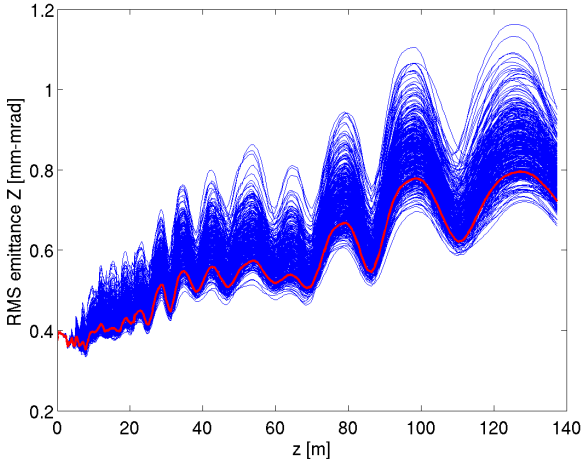
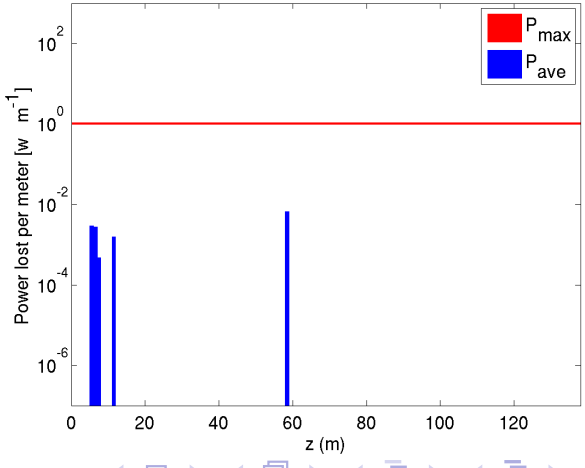


Figure: Losses [W·m^{-1}]



(95) Solenoids Field $\delta F_{static} = 2.5$ %

Figure: RMS Emittance X

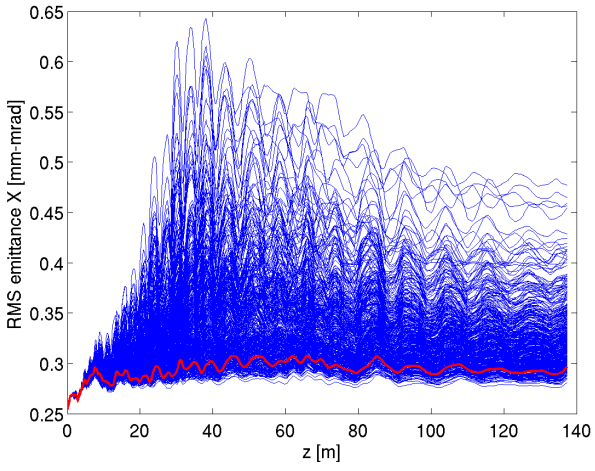


Figure: RMS Emittance Y

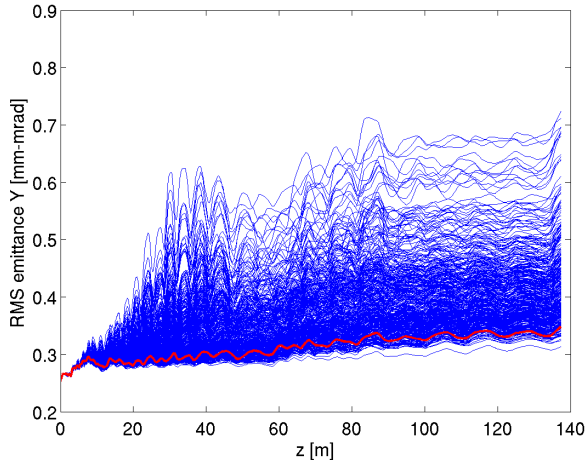


Figure: RMS Emittance Z

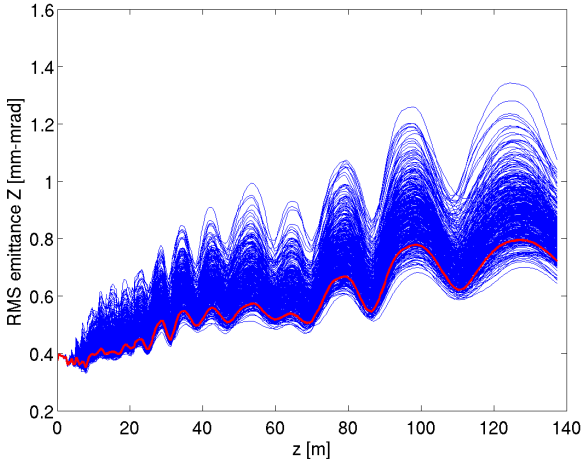
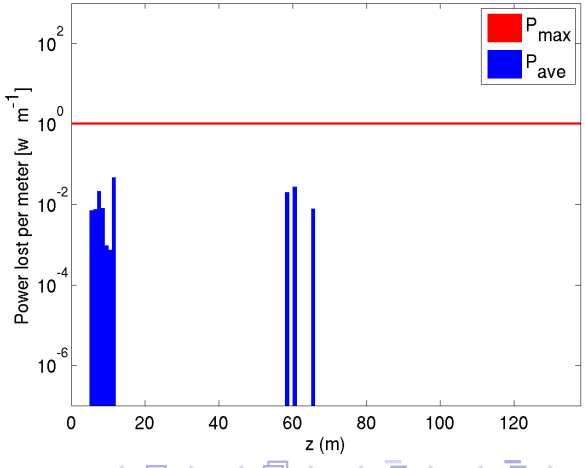


Figure: Losses [W·m^{-1}]



(96) Quads $\delta_x = \delta_y = 150\ \mu$m

Figure: RMS Emittance X

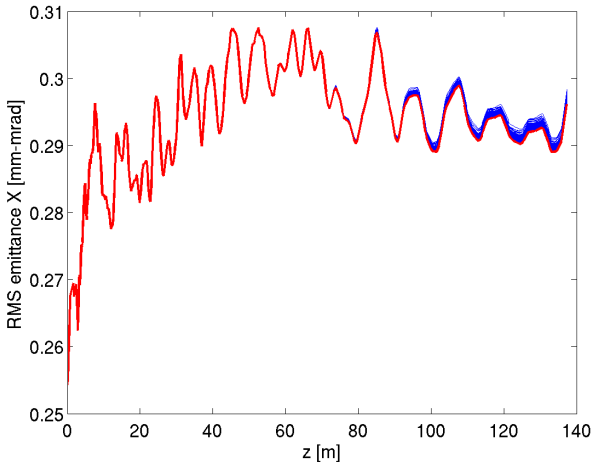


Figure: RMS Emittance Y

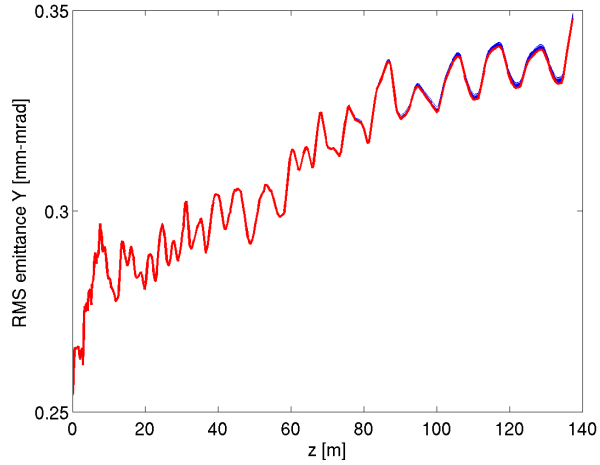


Figure: RMS Emittance Z

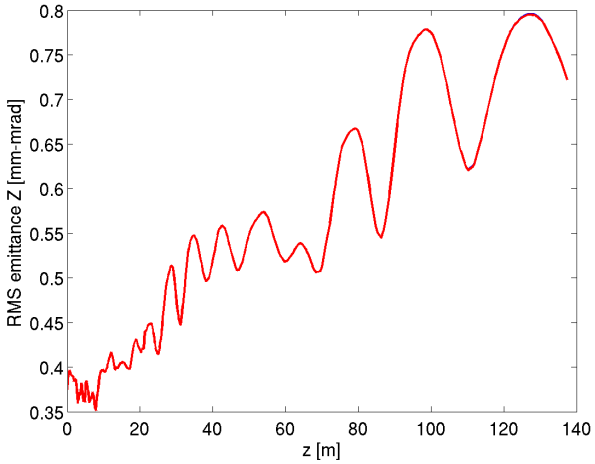
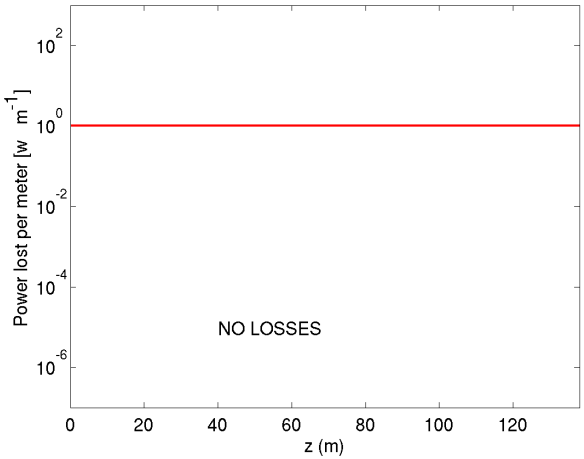


Figure: Losses [W·m^{-1}]



(97) Quads $\delta_x = \delta_y = 300\ \mu$m

Figure: RMS Emittance X

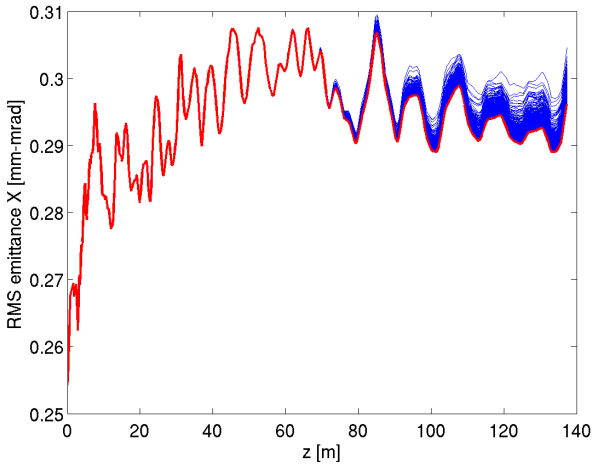


Figure: RMS Emittance Y

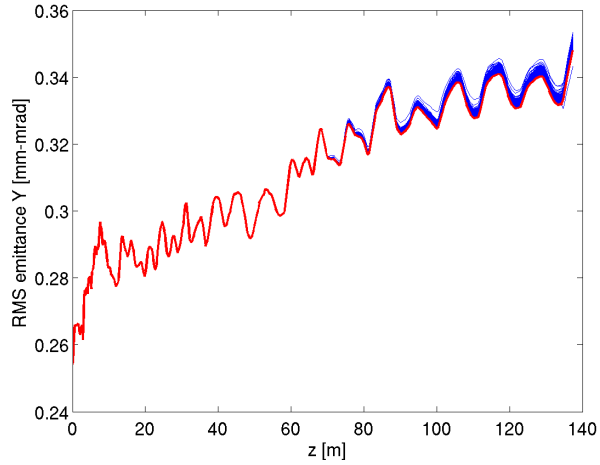


Figure: RMS Emittance Z

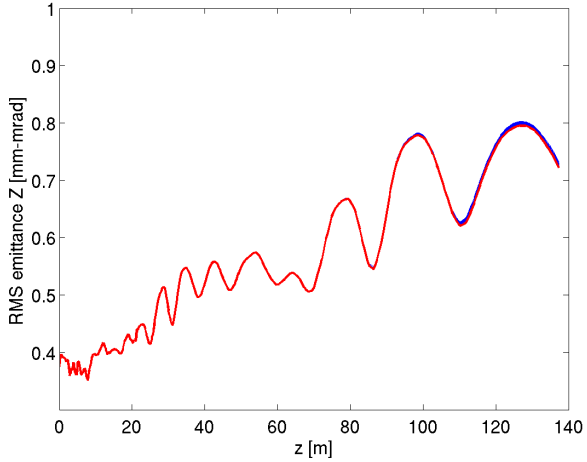
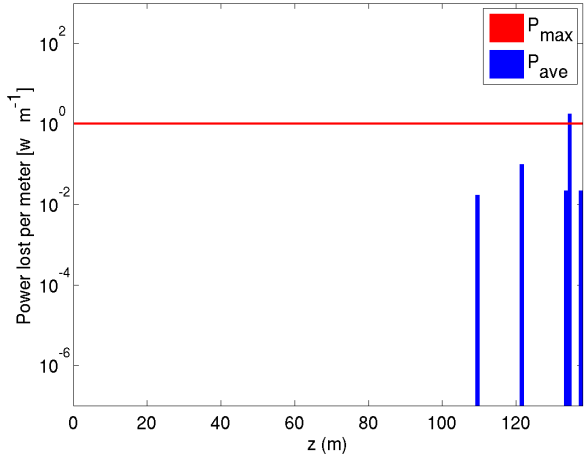


Figure: Losses [W·m^{-1}]



(98) Quads $\delta_x = \delta_y = 500\ \mu$m

Figure: RMS Emittance X

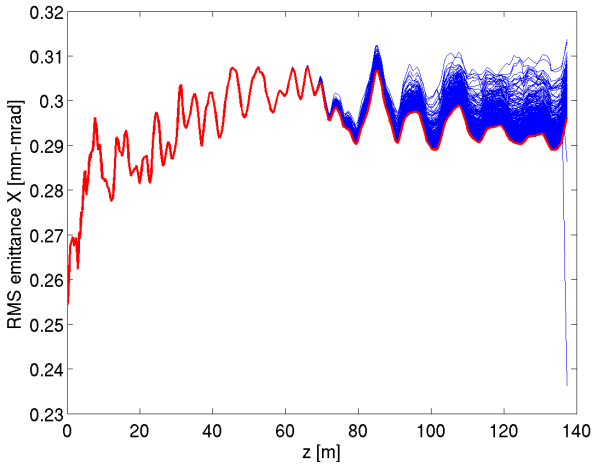


Figure: RMS Emittance Y

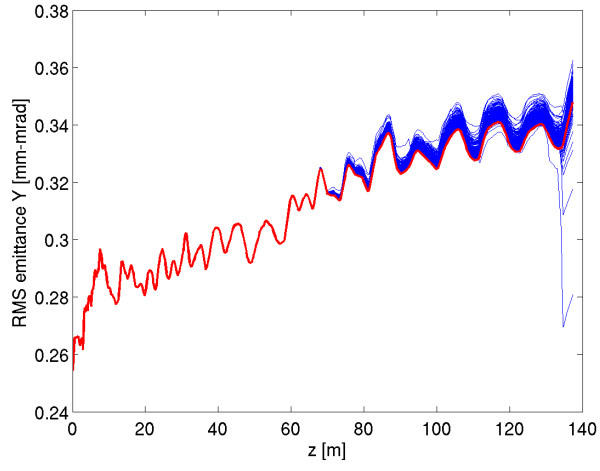


Figure: RMS Emittance Z

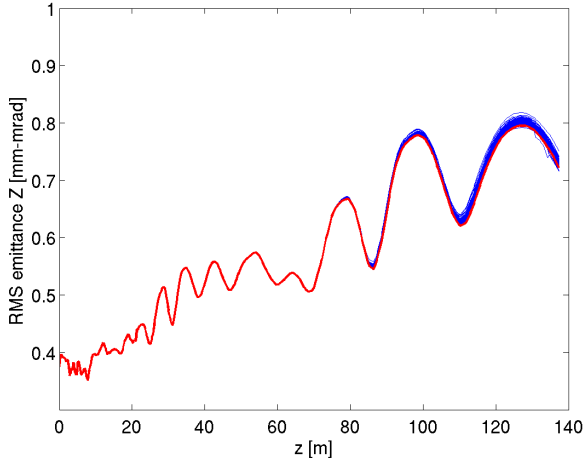
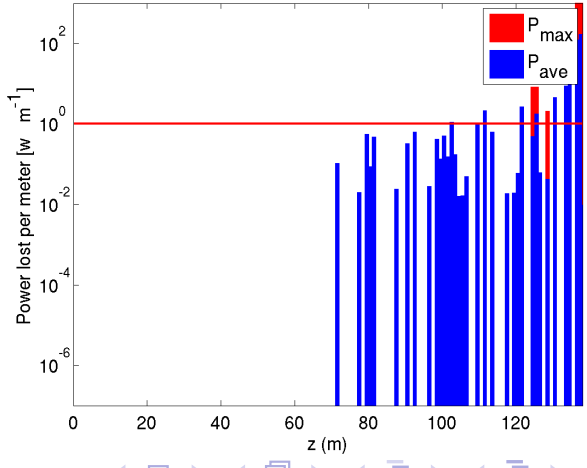


Figure: Losses [W·m^{-1}]



(99) Quads $\delta_x = \delta_y = 750\ \mu$m

Figure: RMS Emittance X

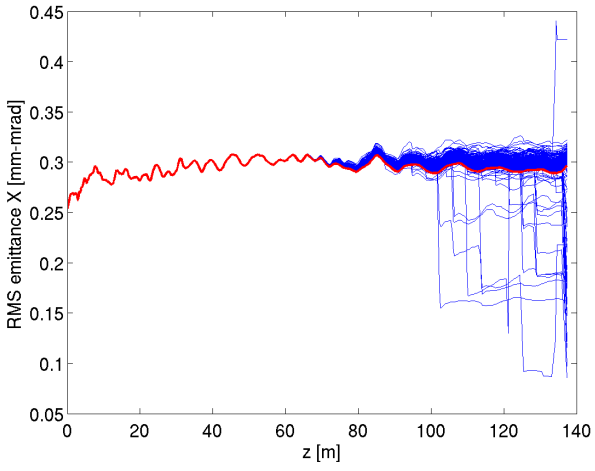


Figure: RMS Emittance Y

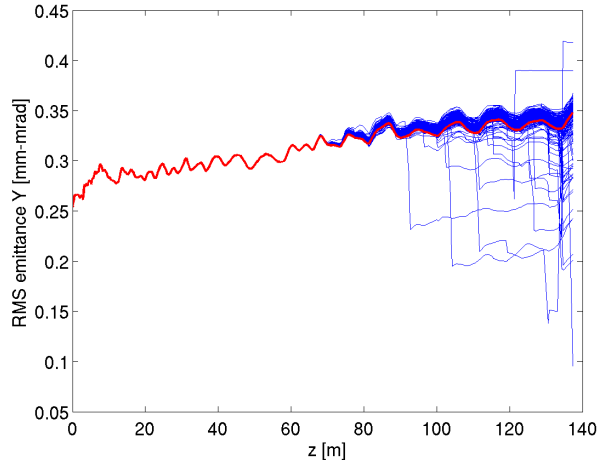


Figure: RMS Emittance Z

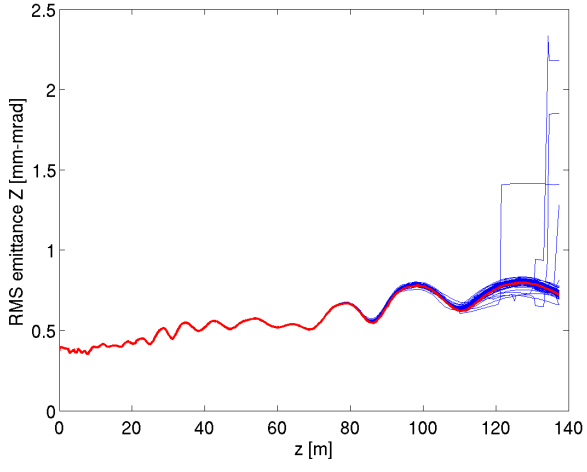
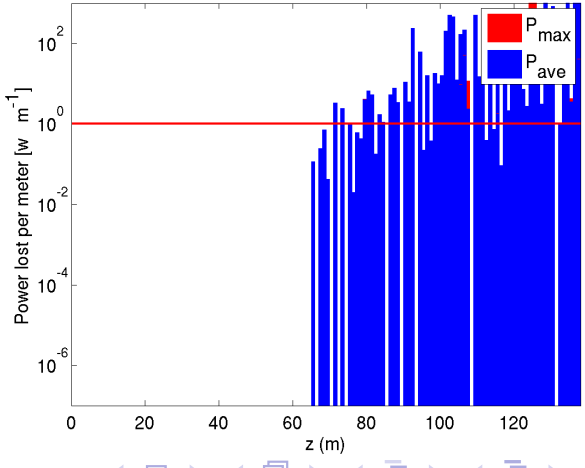


Figure: Losses [W·m^{-1}]



(100) Quads $\delta_x = \delta_y = 1000\ \mu$m

Figure: RMS Emittance X

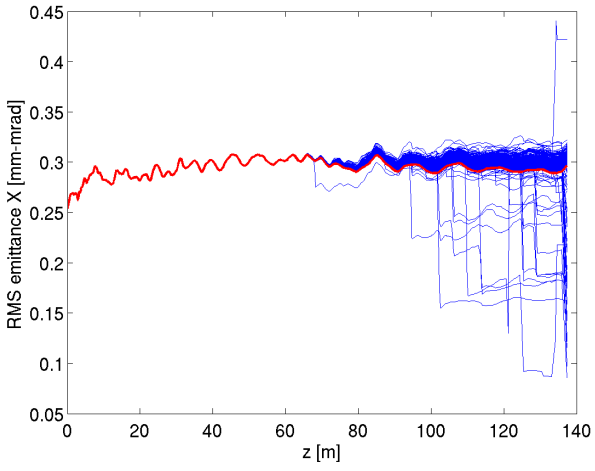


Figure: RMS Emittance Y

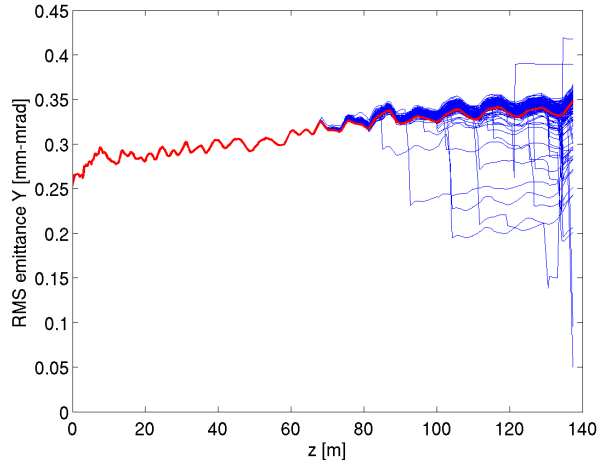


Figure: RMS Emittance Z

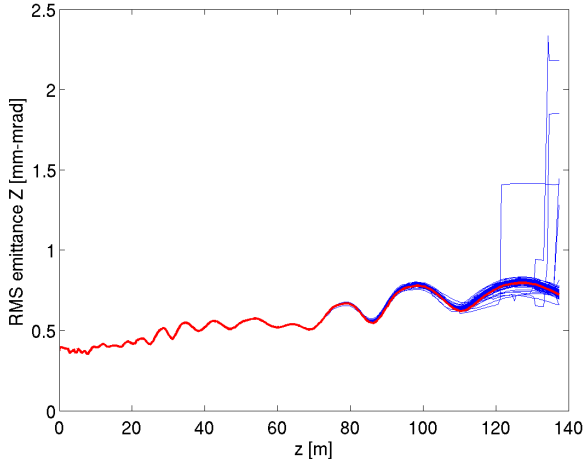
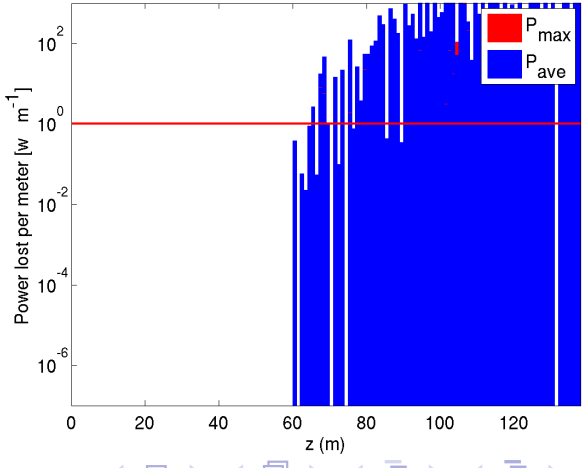


Figure: Losses [W·m^{-1}]



(101) Quads $\delta_z = 150\ \mu$m

Figure: RMS Emittance X

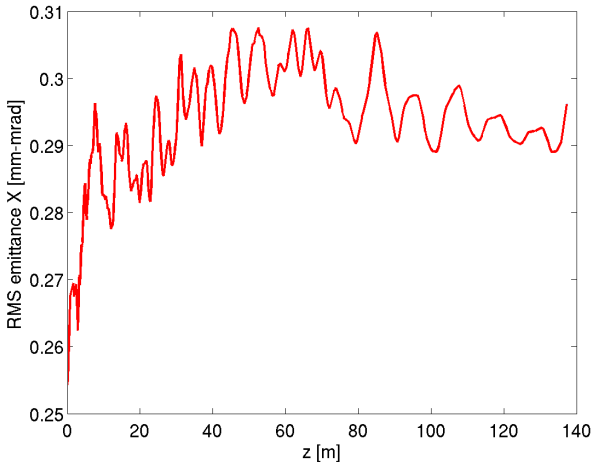


Figure: RMS Emittance Y

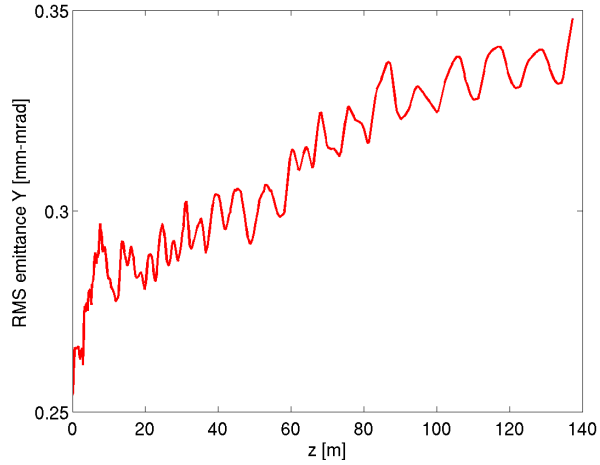


Figure: RMS Emittance Z

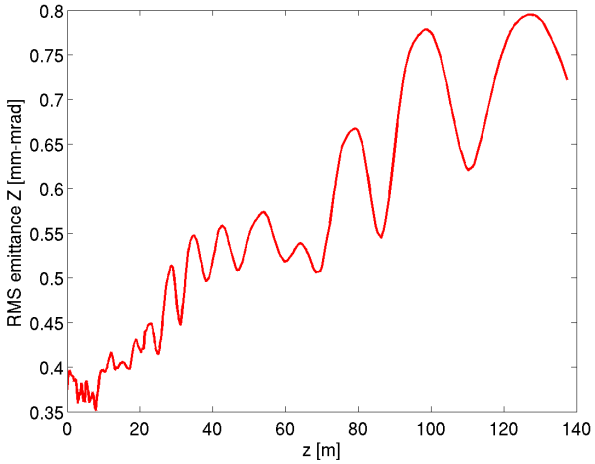
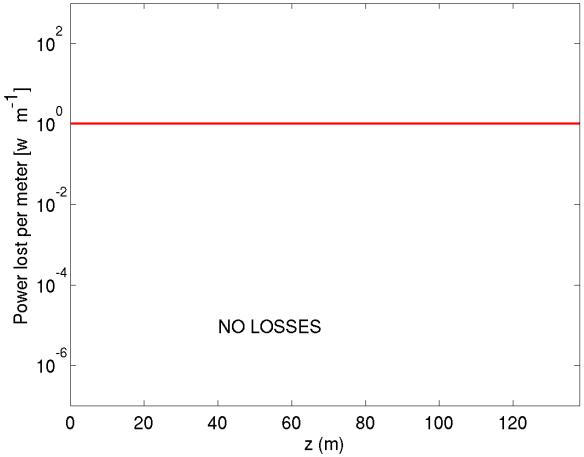


Figure: Losses [W·m^{-1}]



(102) Quads $\delta_z = 300\ \mu$m

Figure: RMS Emittance X

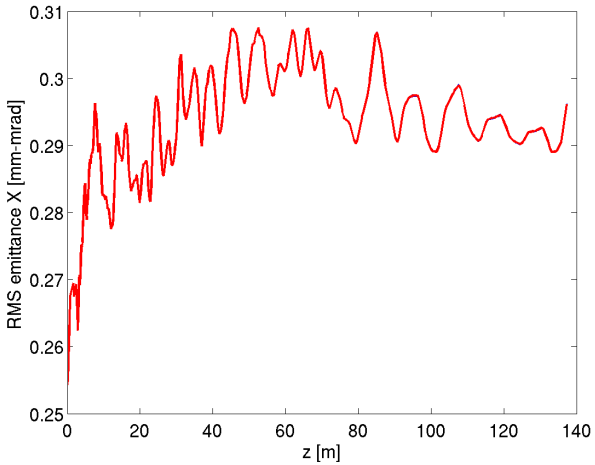


Figure: RMS Emittance Y

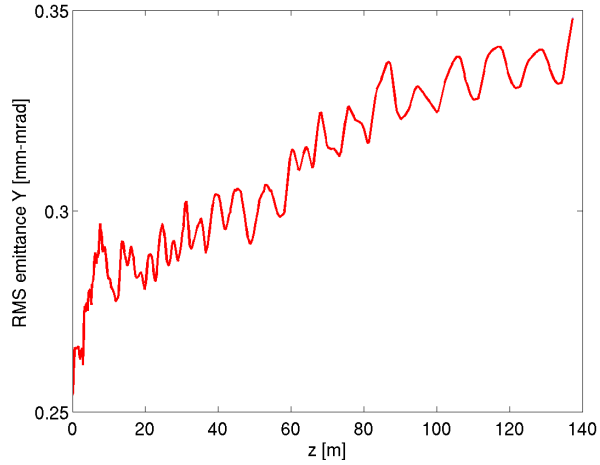


Figure: RMS Emittance Z

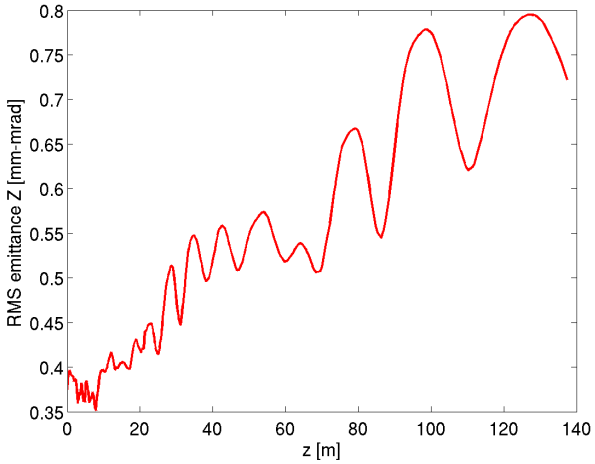
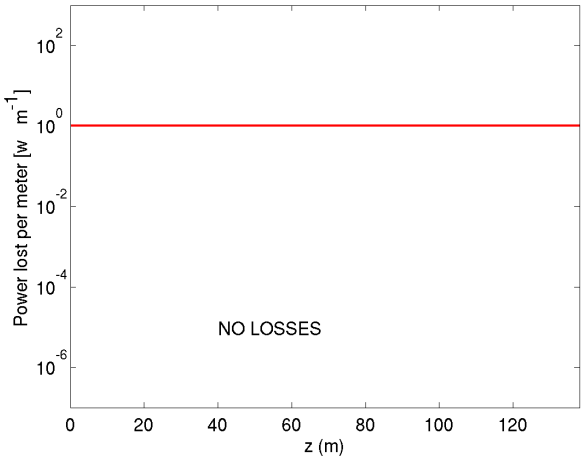


Figure: Losses [W·m^{-1}]



(103) Quads $\delta_z = 500\ \mu$m

Figure: RMS Emittance X

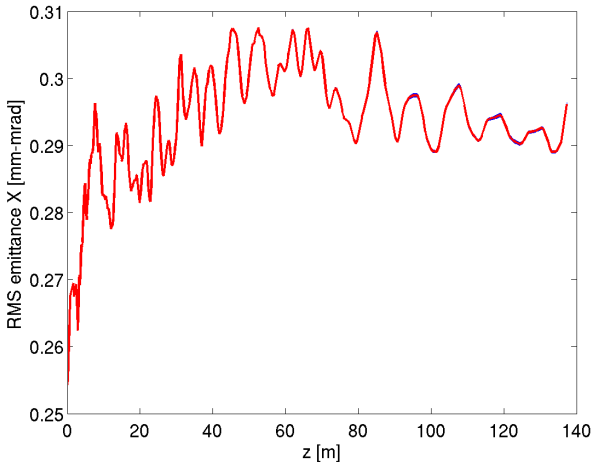


Figure: RMS Emittance Y

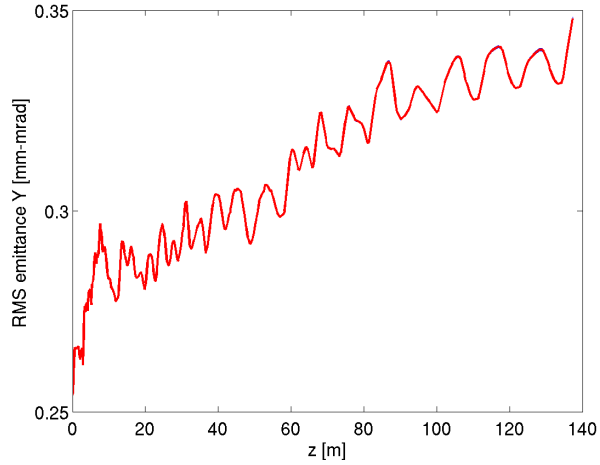


Figure: RMS Emittance Z

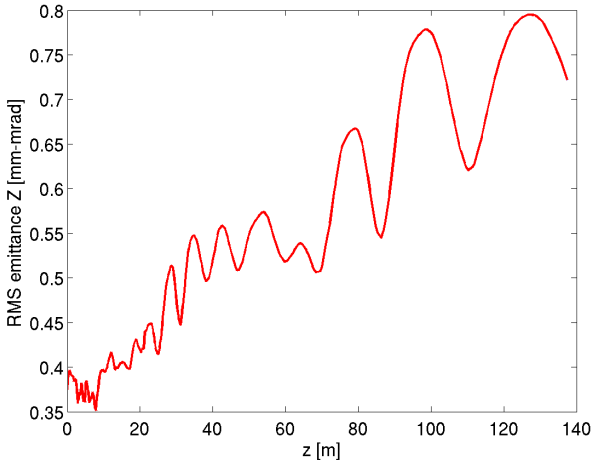
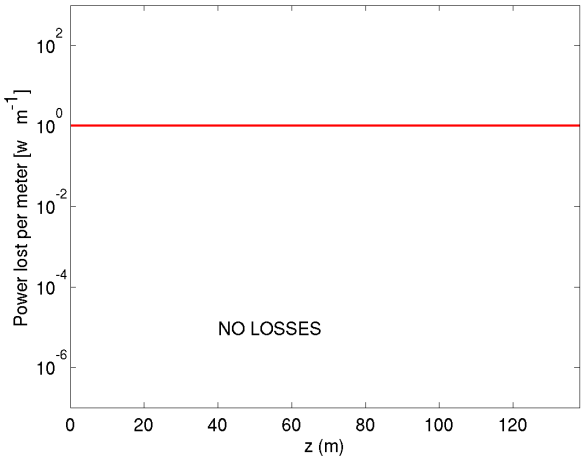


Figure: Losses [W·m^{-1}]



(104) Quads $\delta_z = 750\ \mu$m

Figure: RMS Emittance X

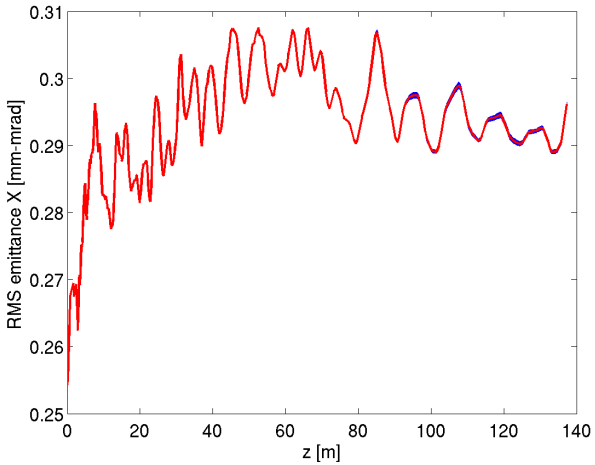


Figure: RMS Emittance Y

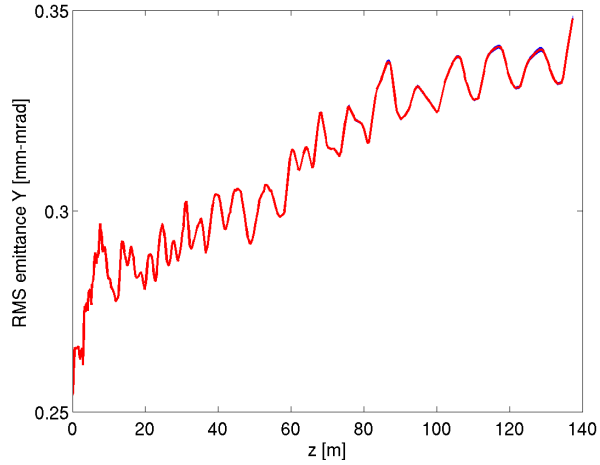


Figure: RMS Emittance Z

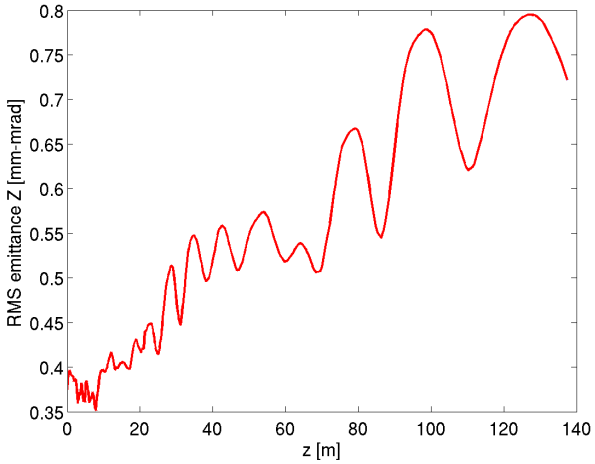
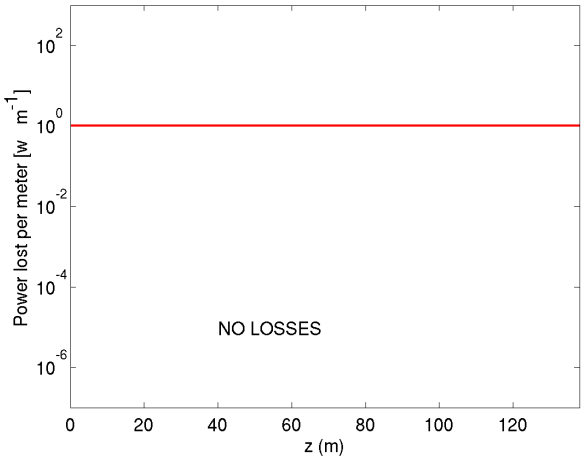


Figure: Losses [W·m^{-1}]



(105) Quads $\delta_z = 1000\ \mu$m

Figure: RMS Emittance X

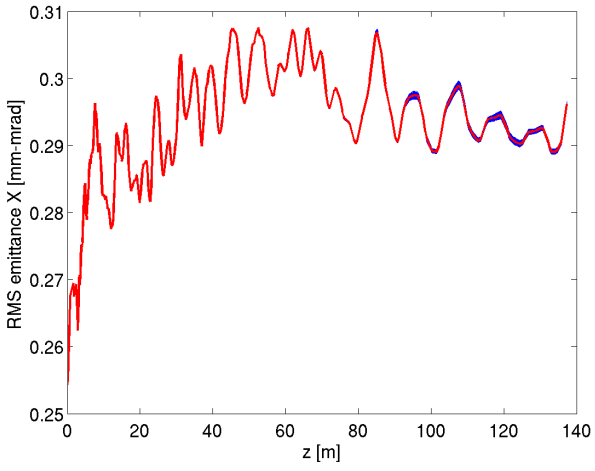


Figure: RMS Emittance Y

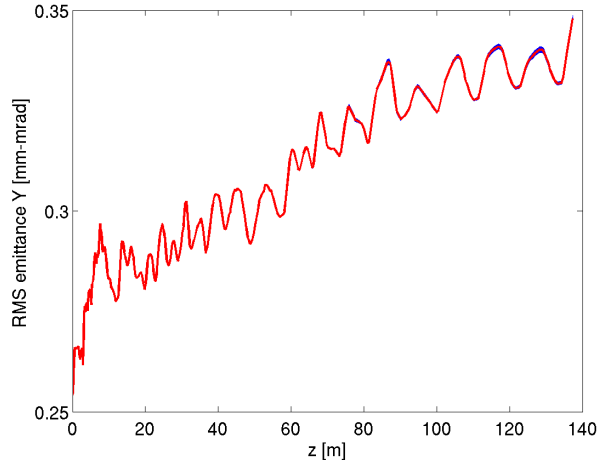


Figure: RMS Emittance Z

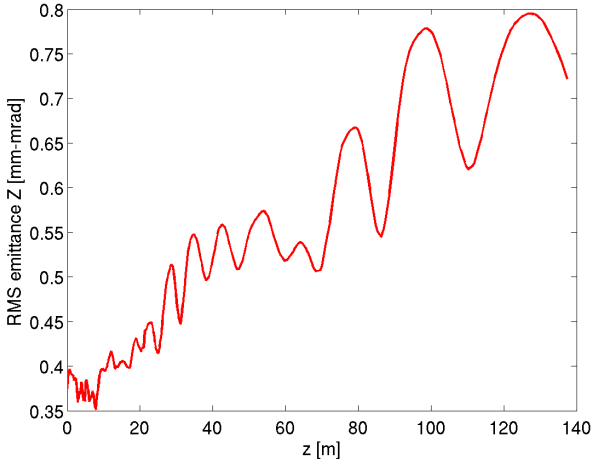
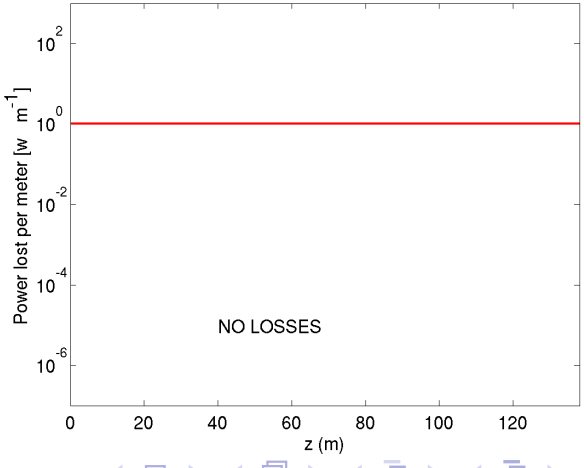


Figure: Losses [W·m^{-1}]



(106) Quads $\phi_x = 1$ mrad

Figure: RMS Emittance X

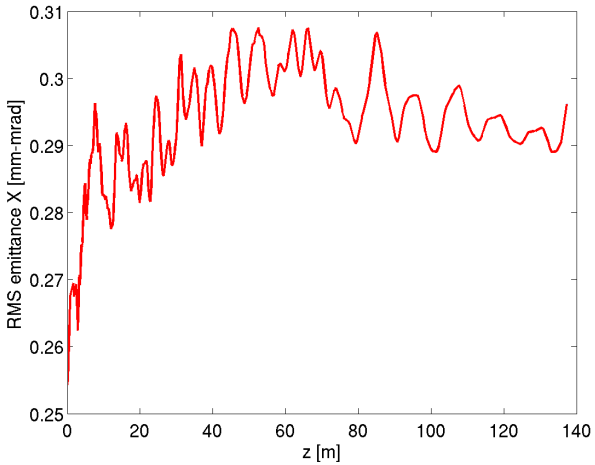


Figure: RMS Emittance Y

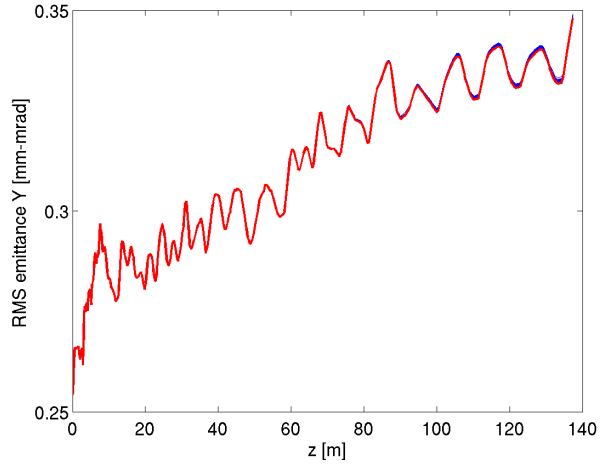


Figure: RMS Emittance Z

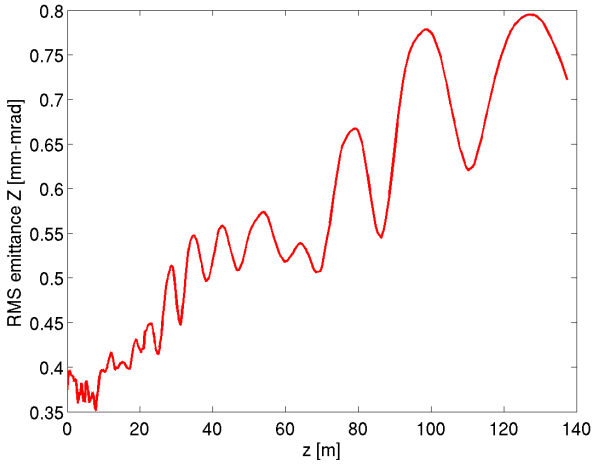
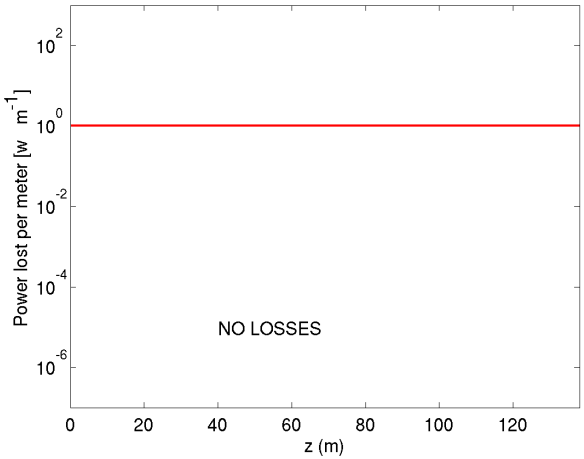


Figure: Losses [W·m^{-1}]



(107) Quads $\phi_x = 2$ mrad

Figure: RMS Emittance X

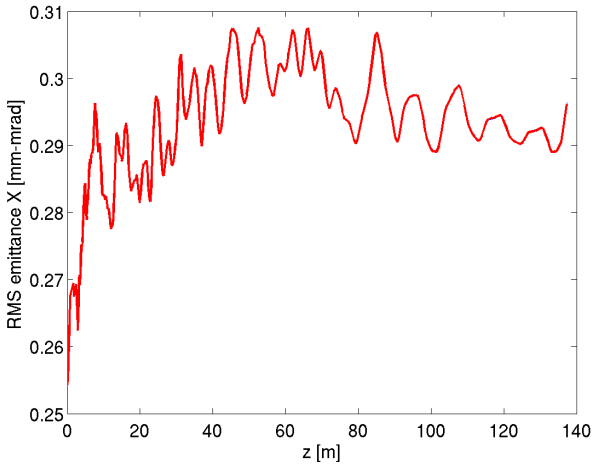


Figure: RMS Emittance Y

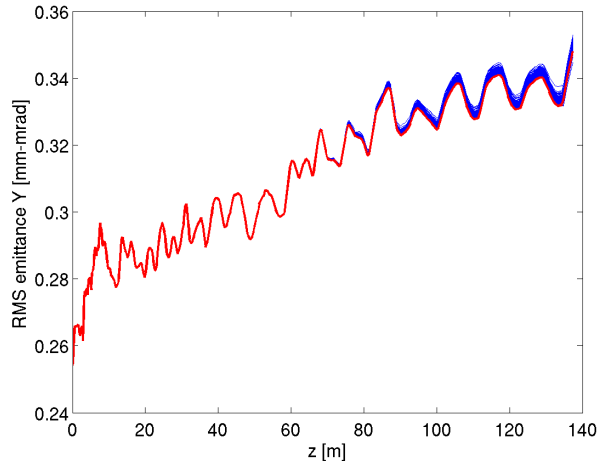


Figure: RMS Emittance z

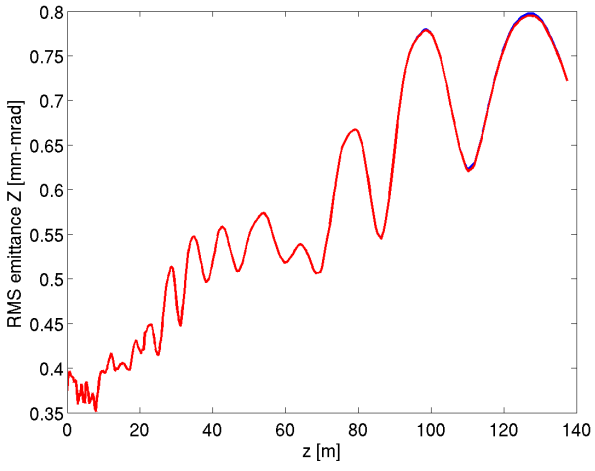
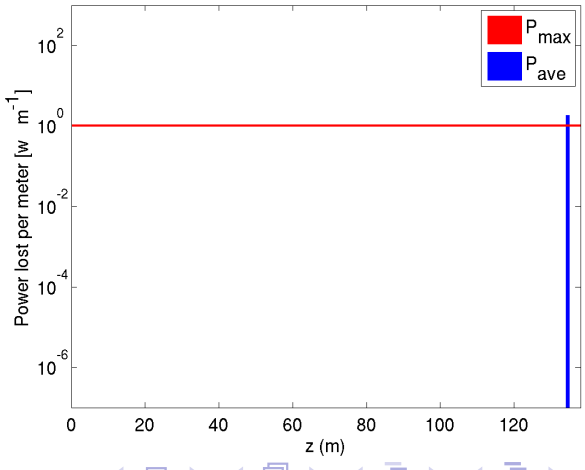


Figure: Losses [W·m^{-1}]



(108) Quads $\phi_x = 5$ mrad

Figure: RMS Emittance X

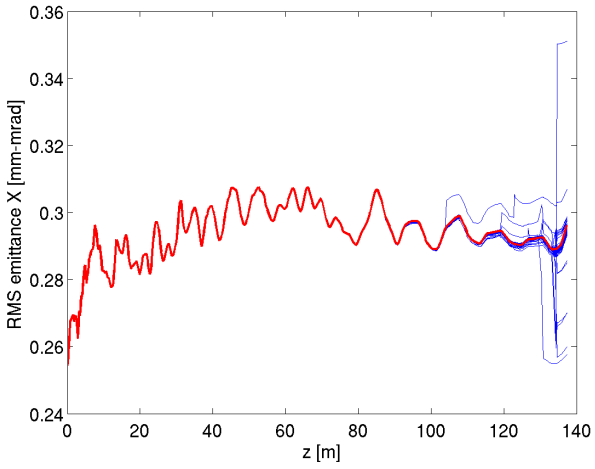


Figure: RMS Emittance Y

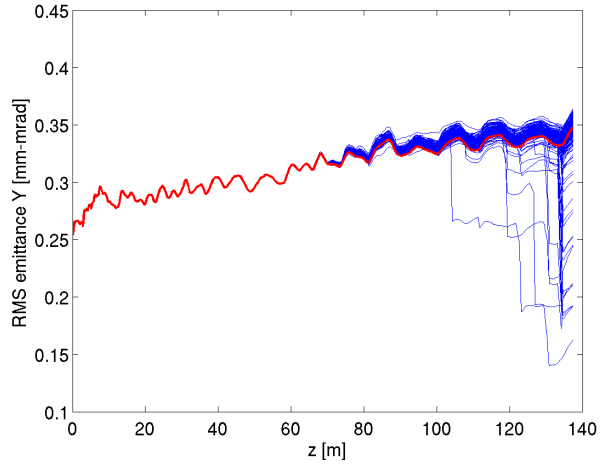


Figure: RMS Emittance Z

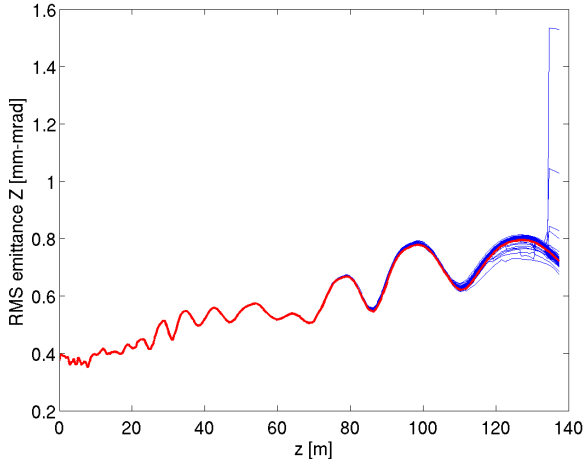
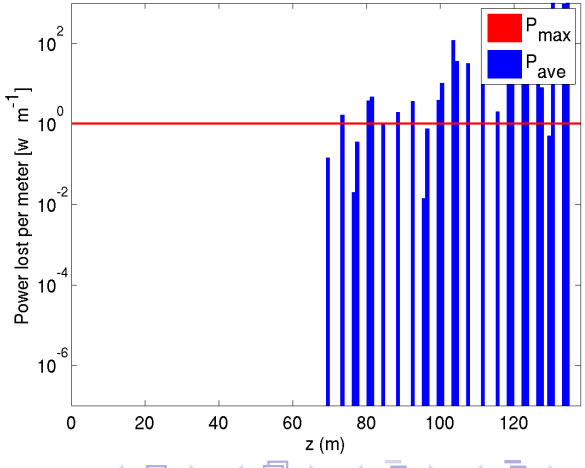


Figure: Losses [W·m^{-1}]



(109) Quads $\phi_x = 7$ mrad

Figure: RMS Emittance X

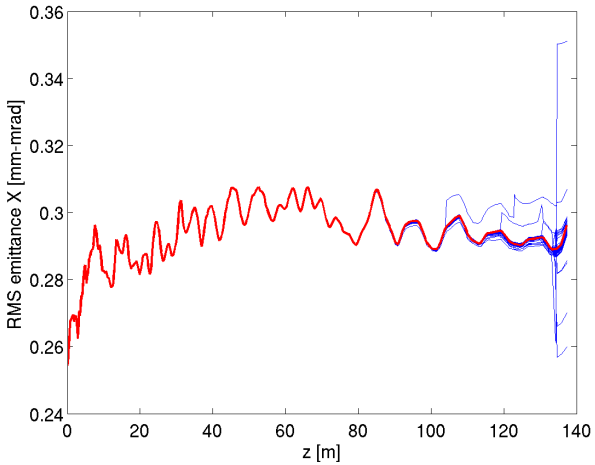


Figure: RMS Emittance Y

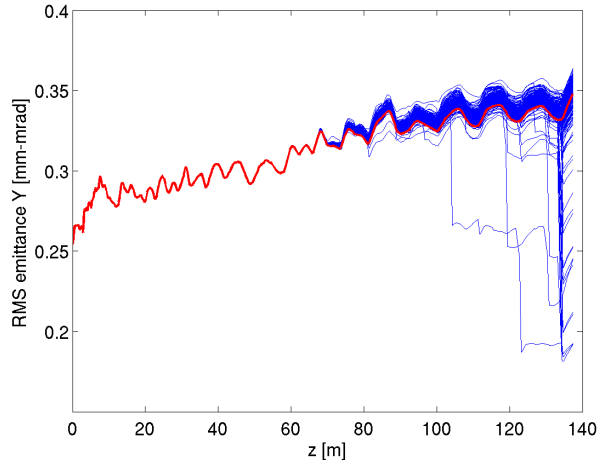


Figure: RMS Emittance Z

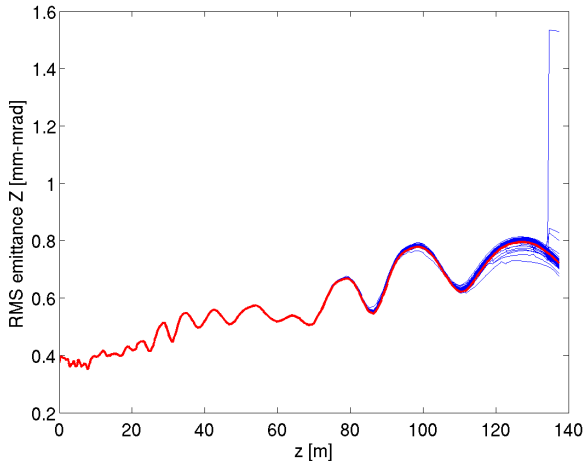
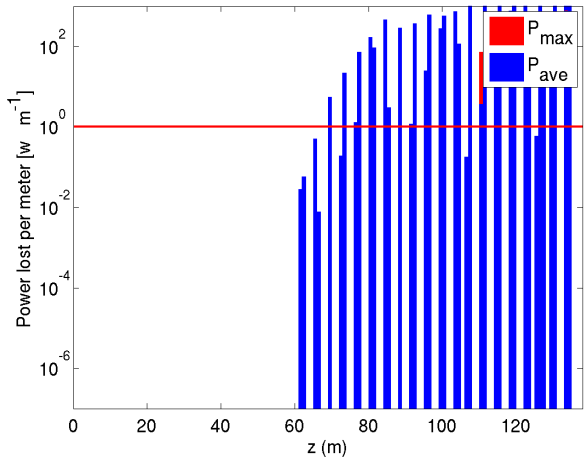


Figure: Losses [W·m^{-1}]



(110) Quads $\phi_x = 10$ mrad

Figure: RMS Emittance X

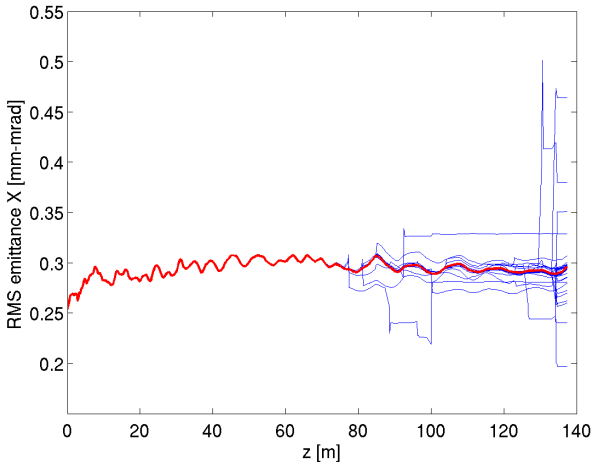


Figure: RMS Emittance Y

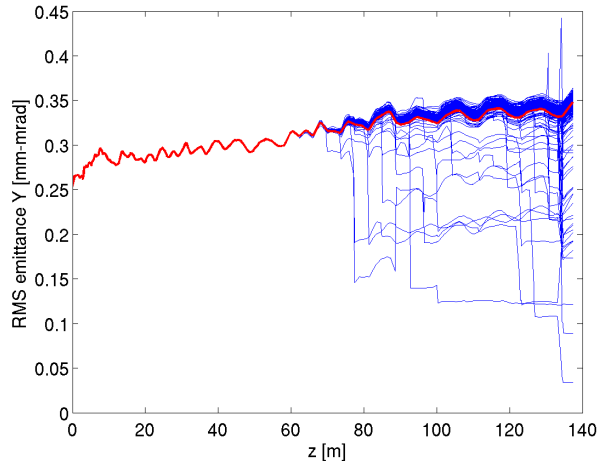


Figure: RMS Emittance Z

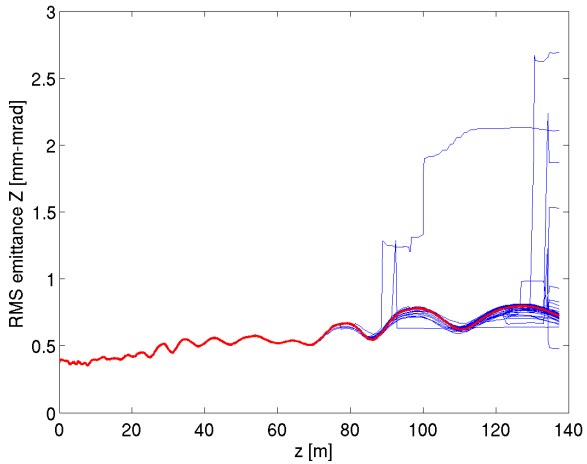
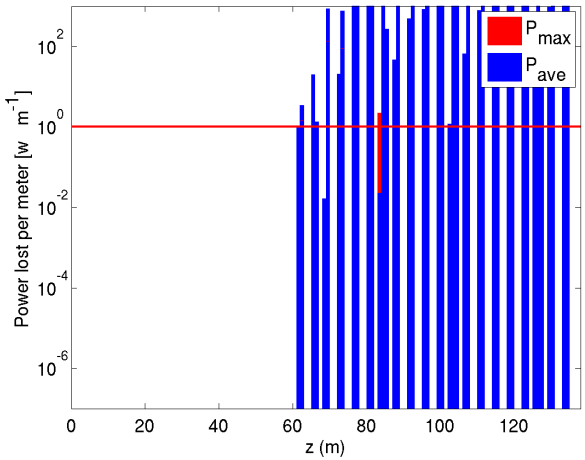


Figure: Losses [W·m^{-1}]



(111) Quads $\phi_x = \phi_y = 1$ mrad

Figure: RMS Emittance X

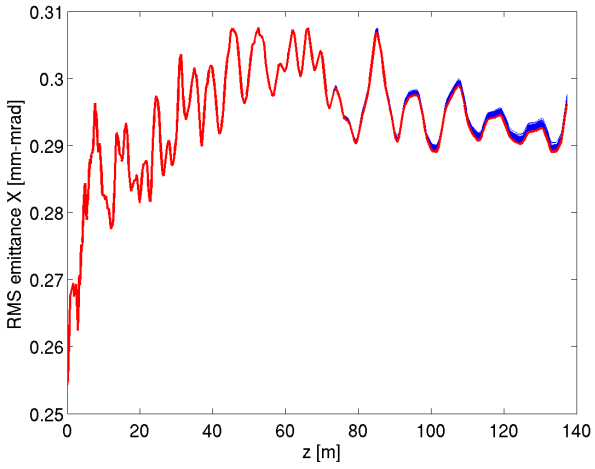


Figure: RMS Emittance Y

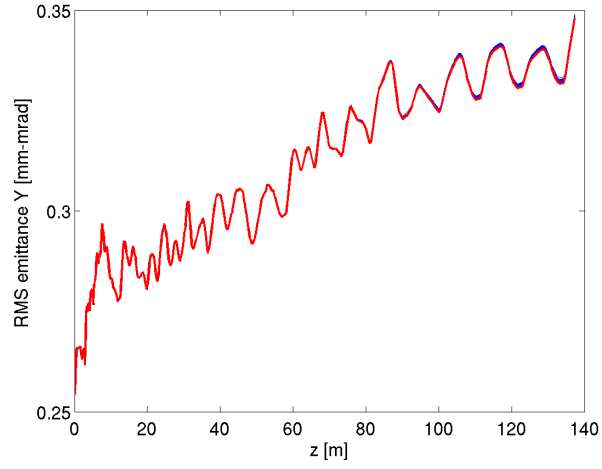


Figure: RMS Emittance Z

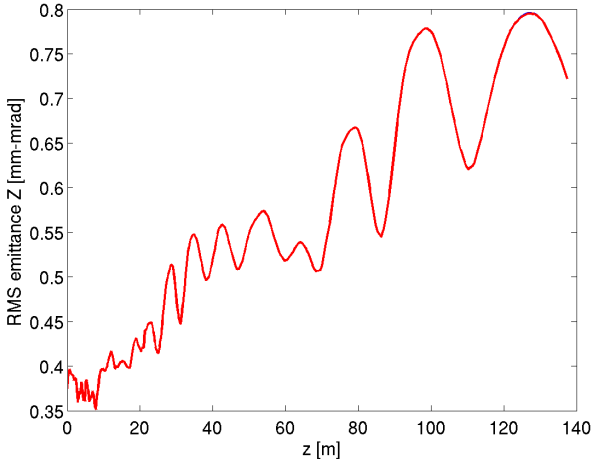
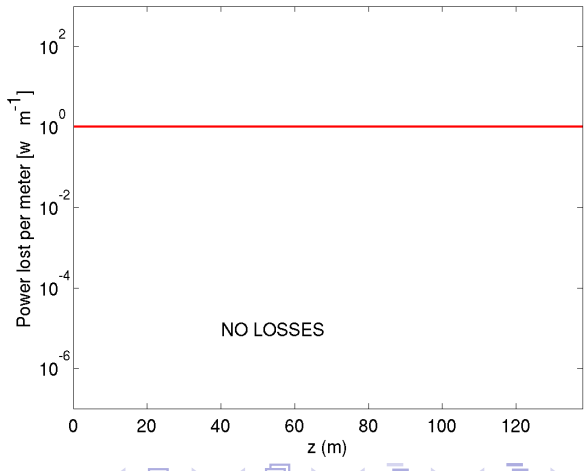


Figure: Losses [W·m^{-1}]



(112) Quads $\phi_x = \phi_y = 2$ mrad

Figure: RMS Emittance X

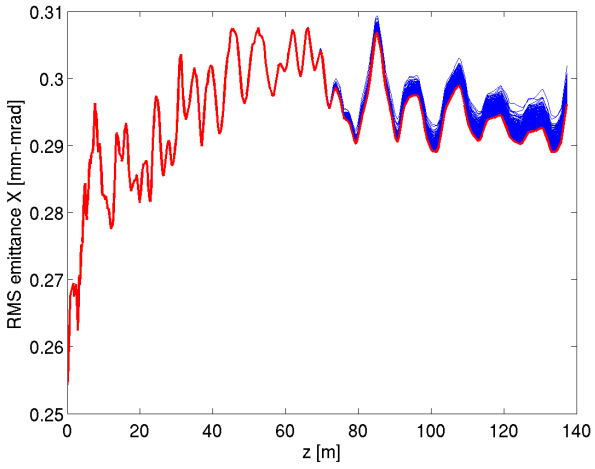


Figure: RMS Emittance Y

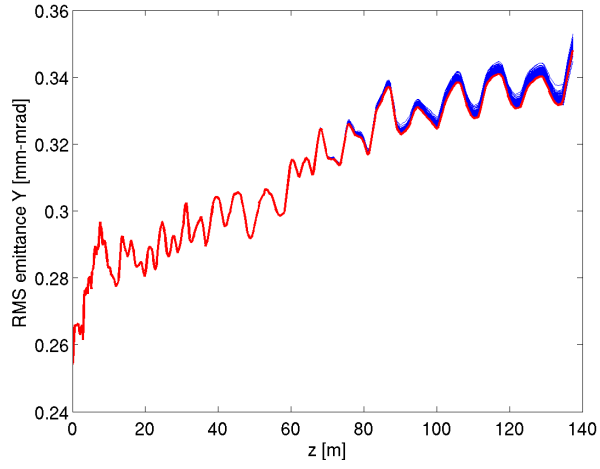


Figure: RMS Emittance Z

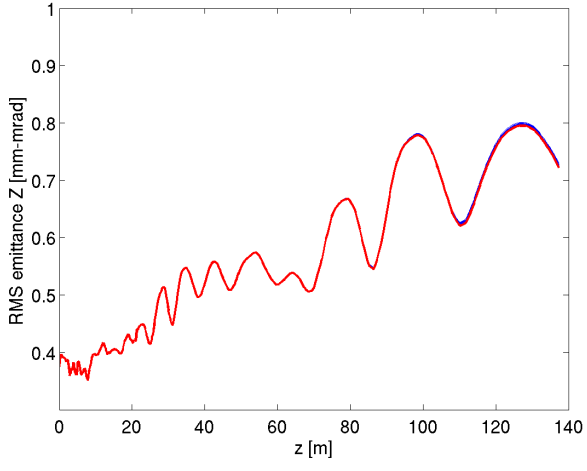
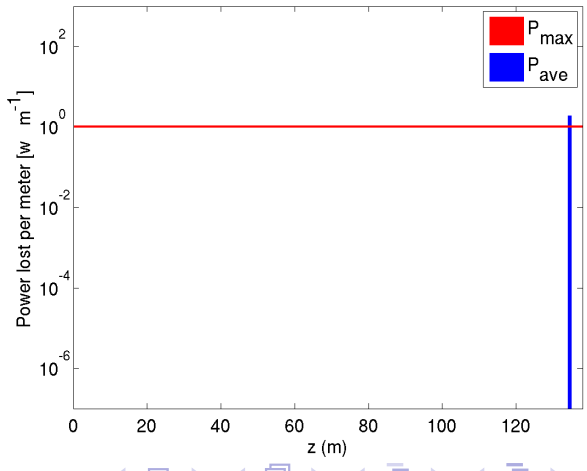


Figure: Losses [W·m^{-1}]



(113) Quads $\phi_x = \phi_y = 5$ mrad

Figure: RMS Emittance X

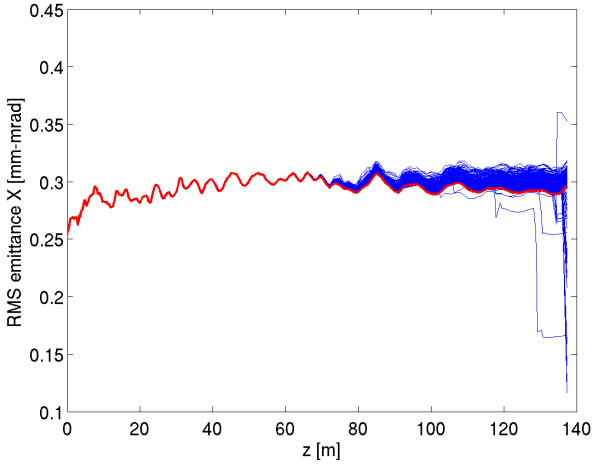


Figure: RMS Emittance Y

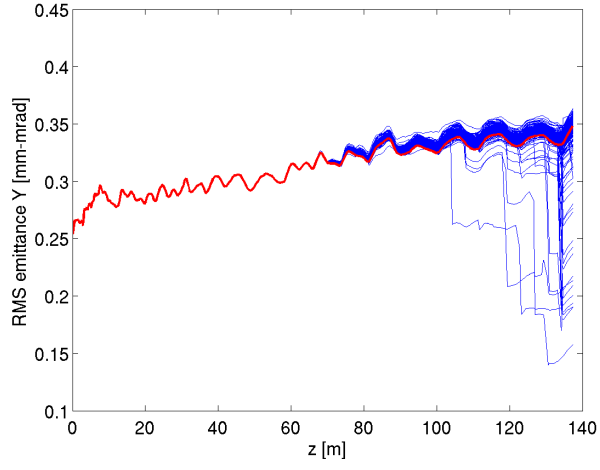


Figure: RMS Emittance Z

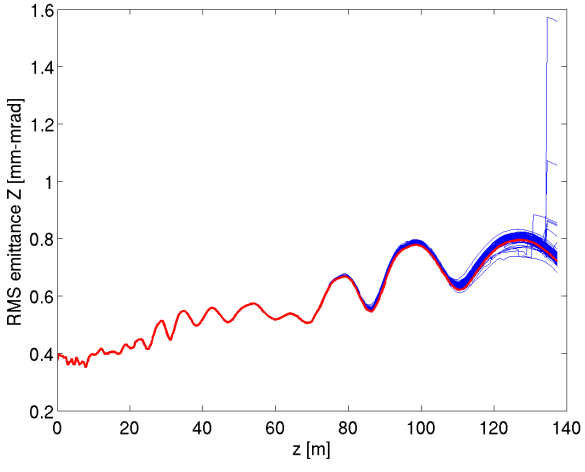
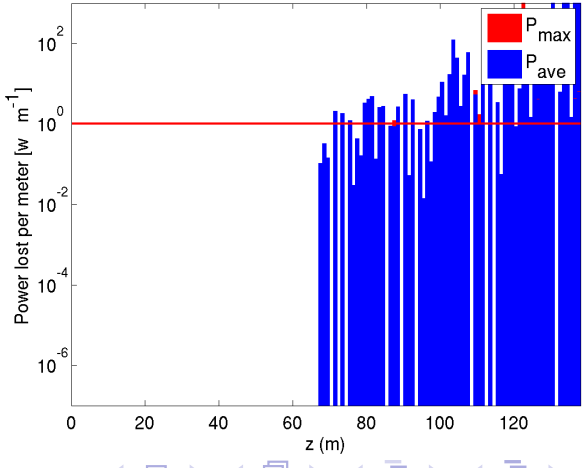


Figure: Losses [W·m^{-1}]



(114) Quads $\phi_x = \phi_y = 7$ mrad

Figure: RMS Emittance X

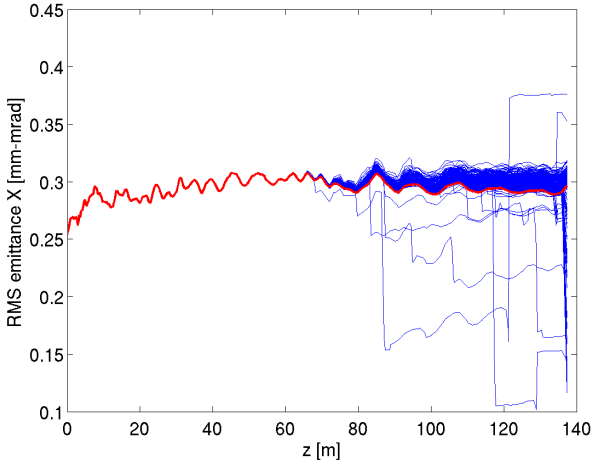


Figure: RMS Emittance Y

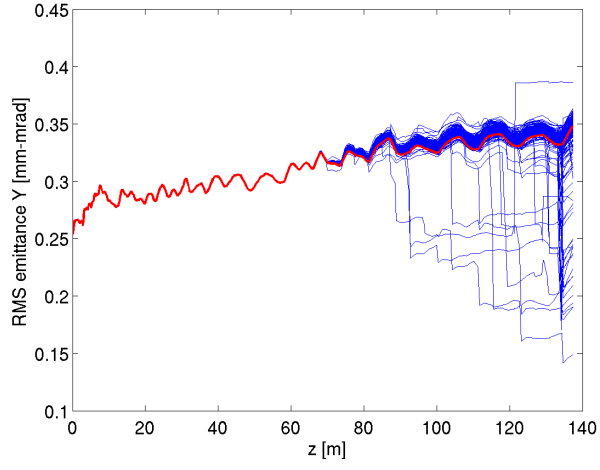


Figure: RMS Emittance Z

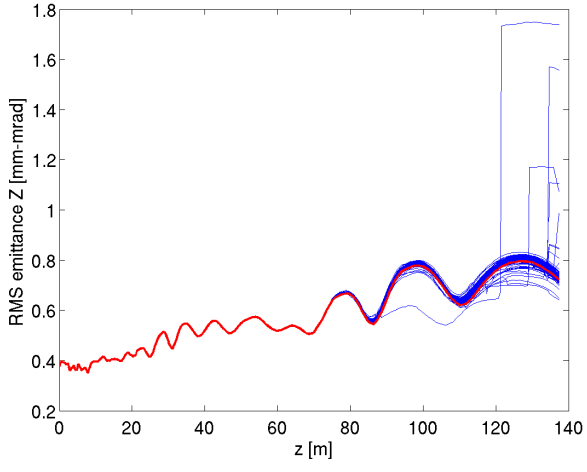
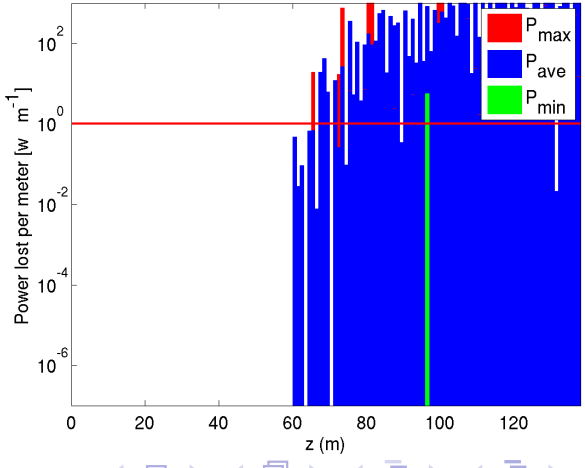


Figure: Losses [W·m^{-1}]



(115) Quads $\phi_x = \phi_y = 10$ mrad

Figure: RMS Emittance X

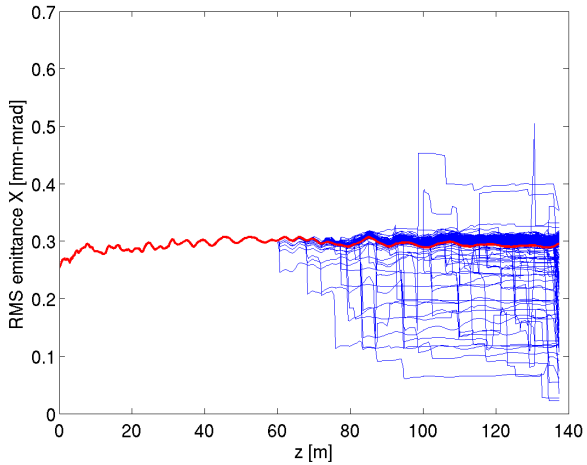


Figure: RMS Emittance Y

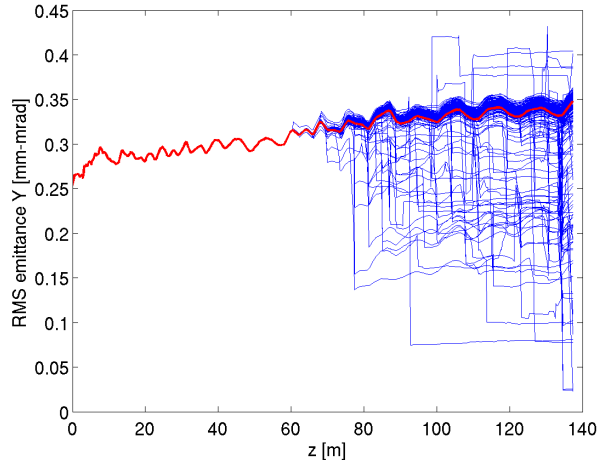


Figure: RMS Emittance Z

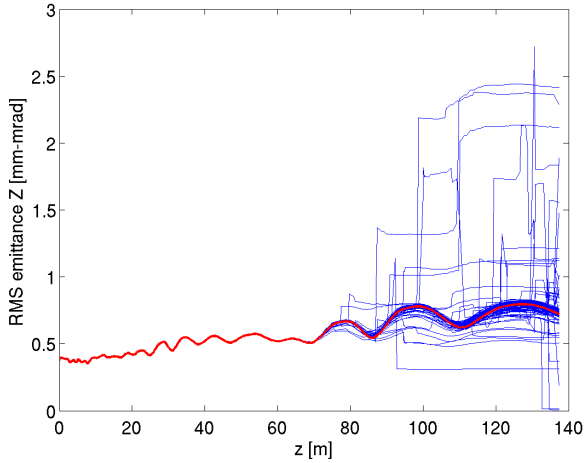
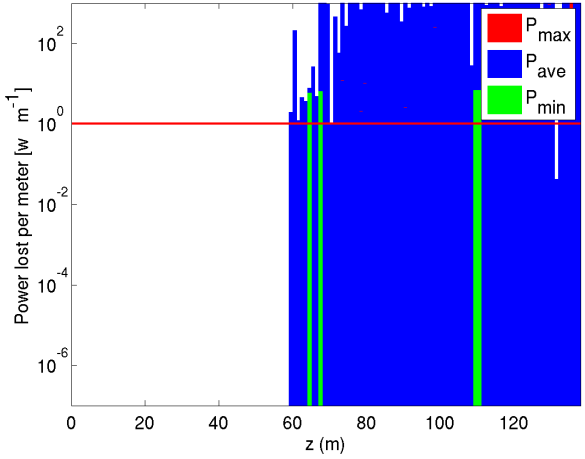


Figure: Losses [W·m^{-1}]



(116) Quads Fields $\delta F_{dynamic} = 0.5$ %

Figure: RMS Emittance X

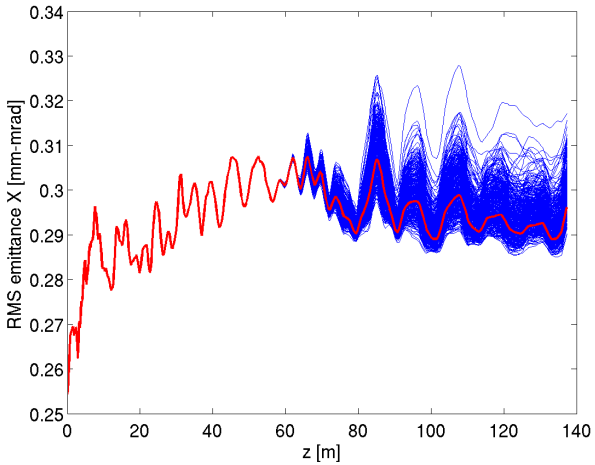


Figure: RMS Emittance Y

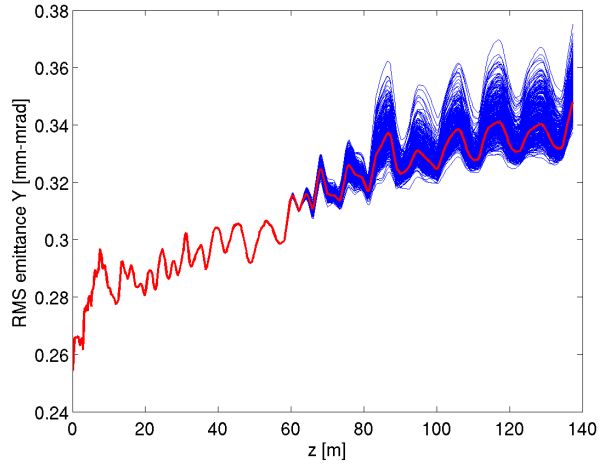


Figure: RMS Emittance Z

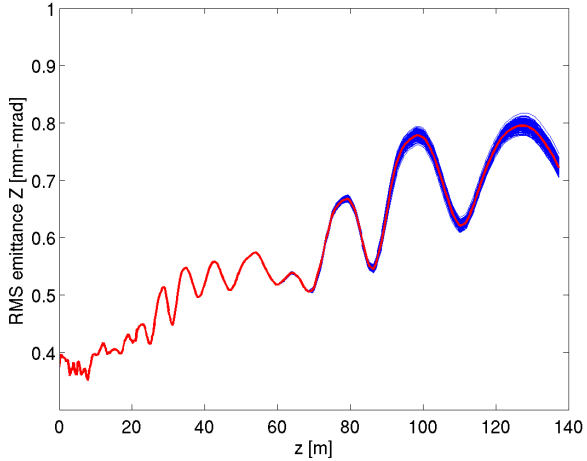
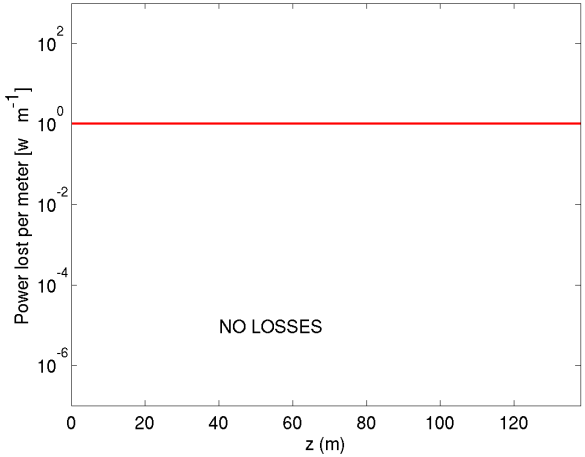


Figure: Losses [W·m^{-1}]



(117) Quads Fields $\delta F_{dynamic} = 1.0$ %

Figure: RMS Emittance X

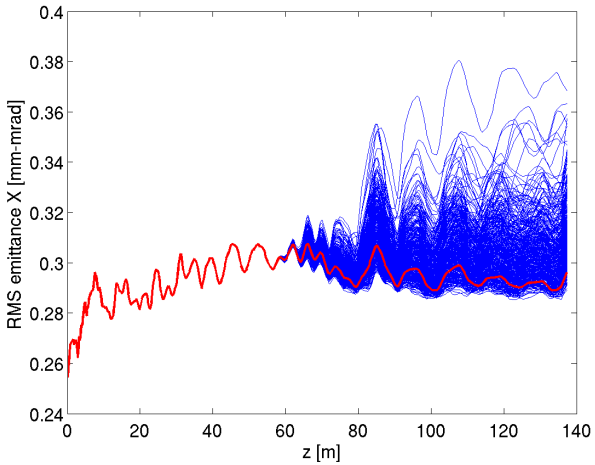


Figure: RMS Emittance Y

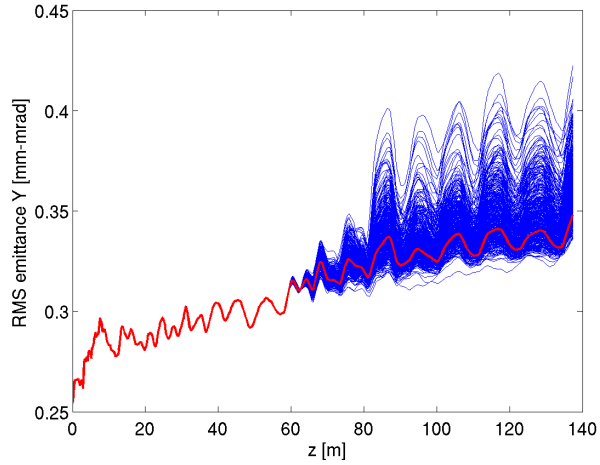


Figure: RMS Emittance Z

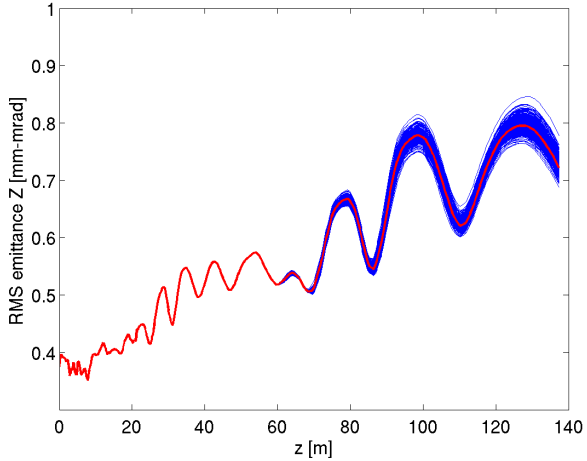
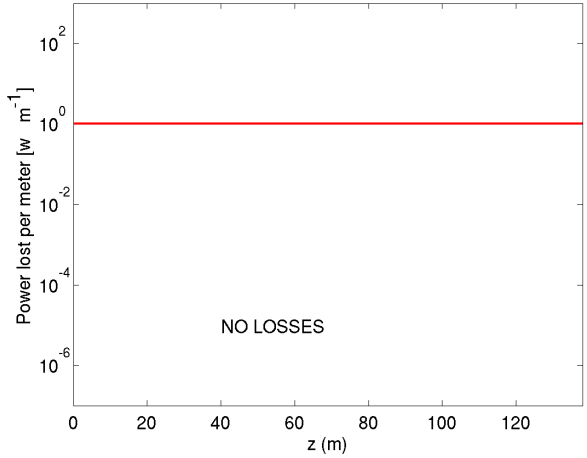


Figure: Losses [W·m^{-1}]



(118) Quads Fields $\delta F_{dynamic} = 1.5\ \%$

Figure: RMS Emittance X

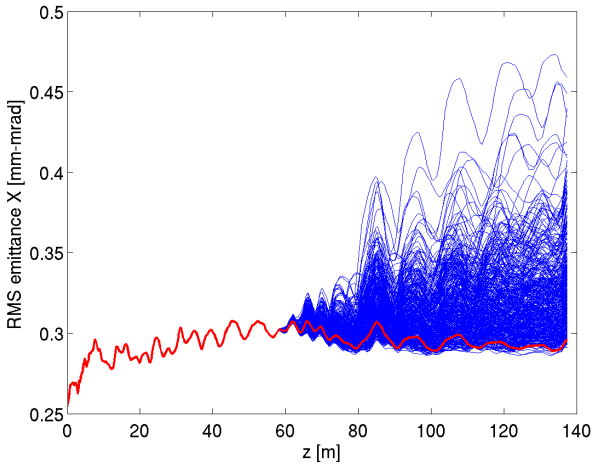


Figure: RMS Emittance Y

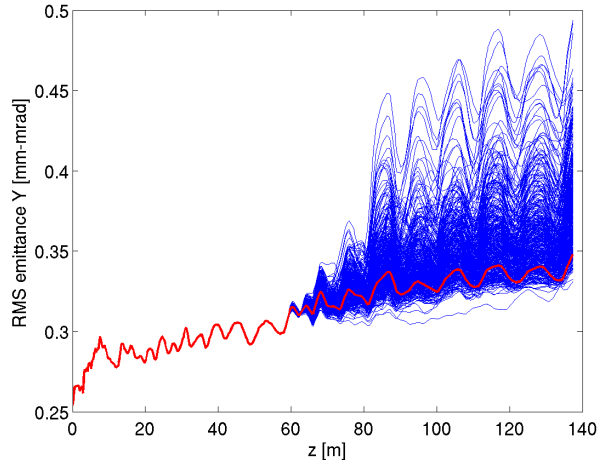


Figure: RMS Emittance Z

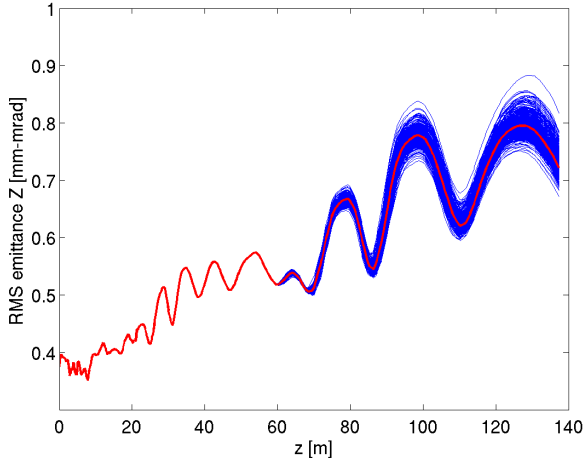
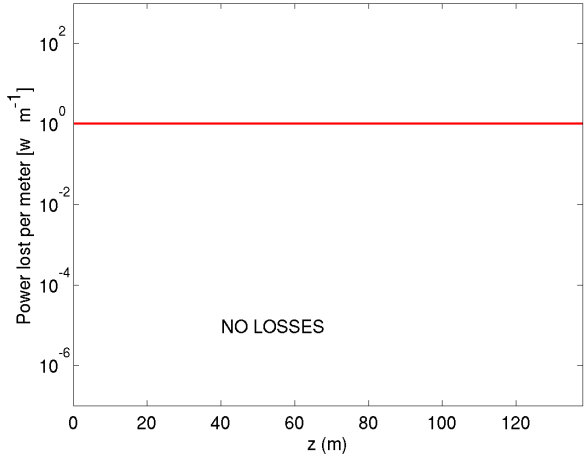


Figure: Losses [W·m^{-1}]



(119) Quads Fields $\delta F_{dynamic} = 2.0$ %

Figure: RMS Emittance X

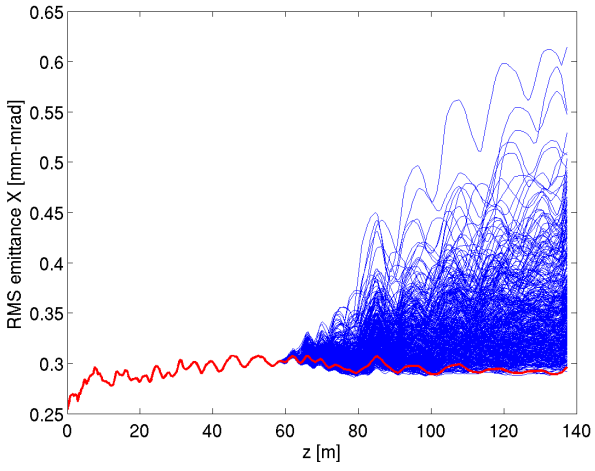


Figure: RMS Emittance Y

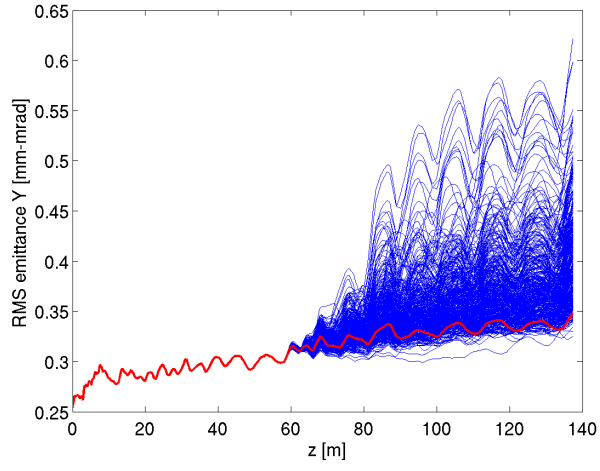


Figure: RMS Emittance Z

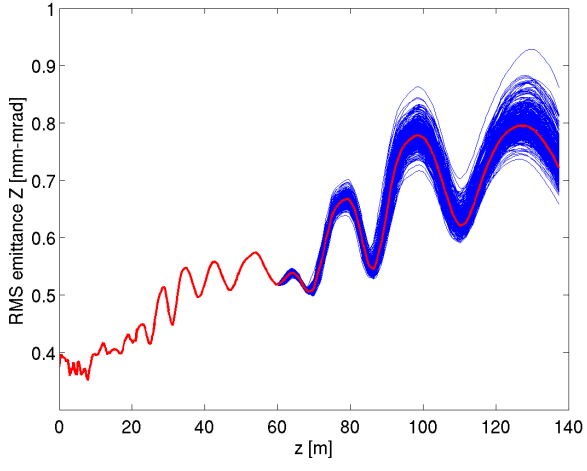
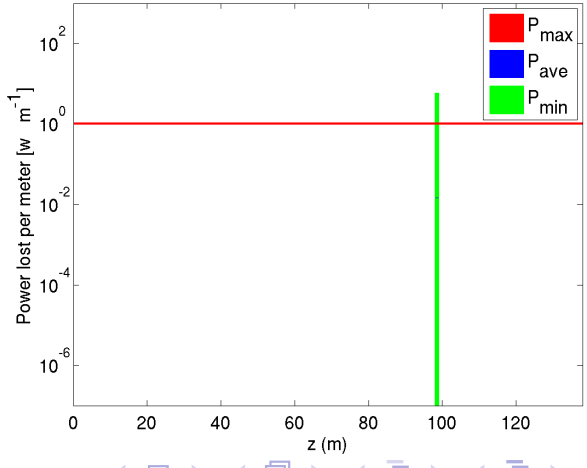


Figure: Losses [W·m^{-1}]



(120) Quads Fields $\delta F_{dynamic} = 2.5\ \%$

Figure: RMS Emittance X

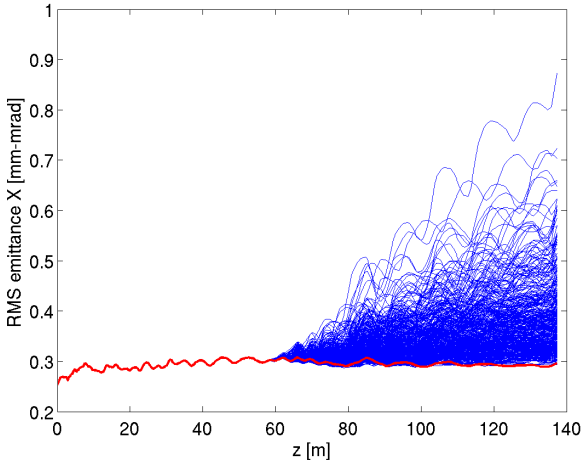


Figure: RMS Emittance Y

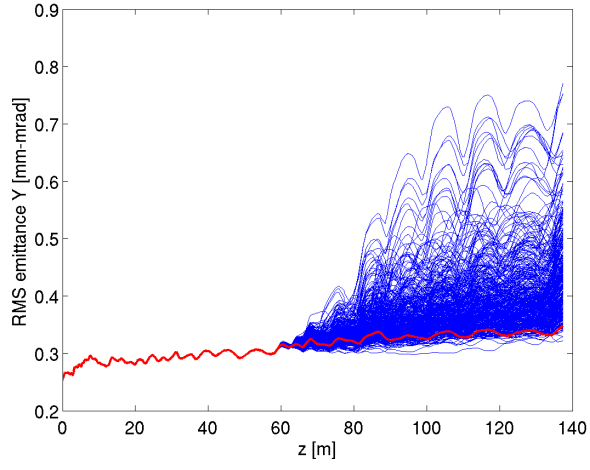


Figure: RMS Emittance Z

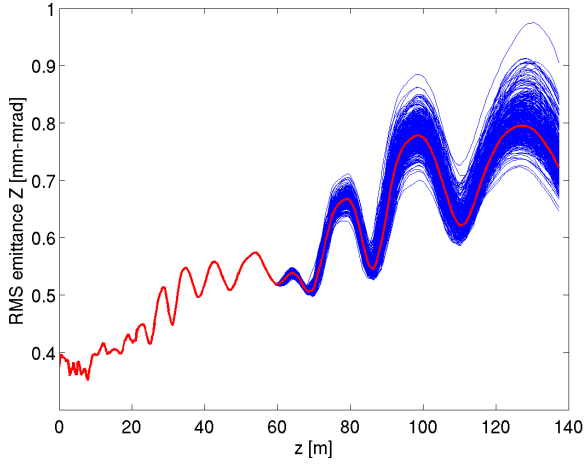
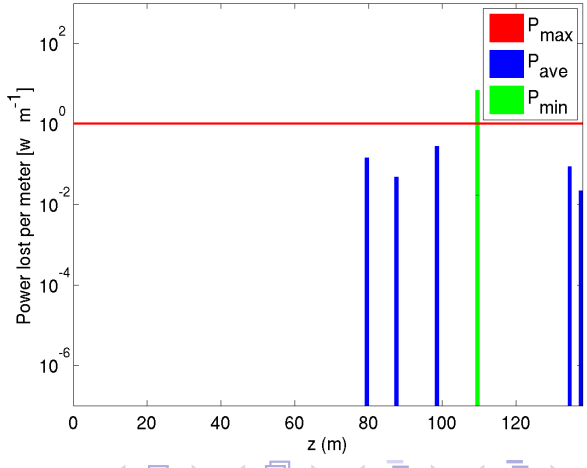


Figure: Losses [W·m^{-1}]



(121) Quads Field $\delta F_{static} = 0.5$ %

Figure: RMS Emittance X

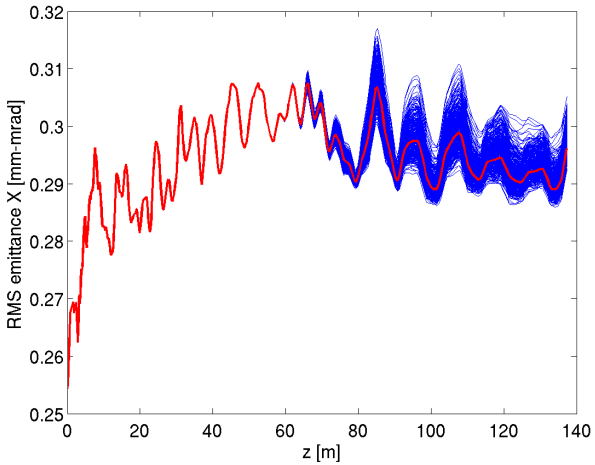


Figure: RMS Emittance Y

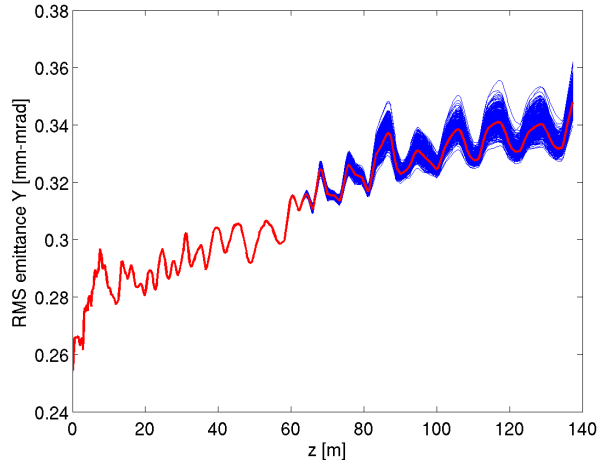


Figure: RMS Emittance Z

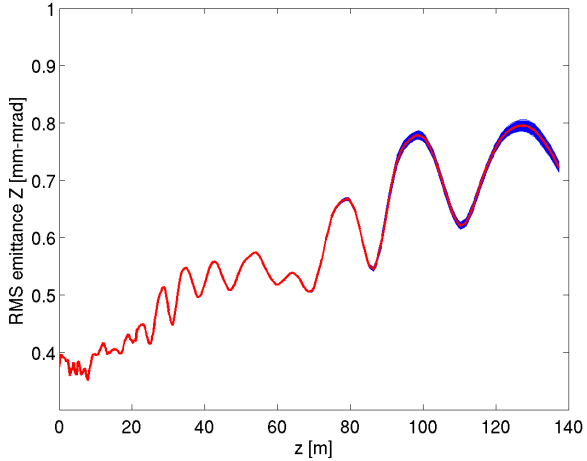
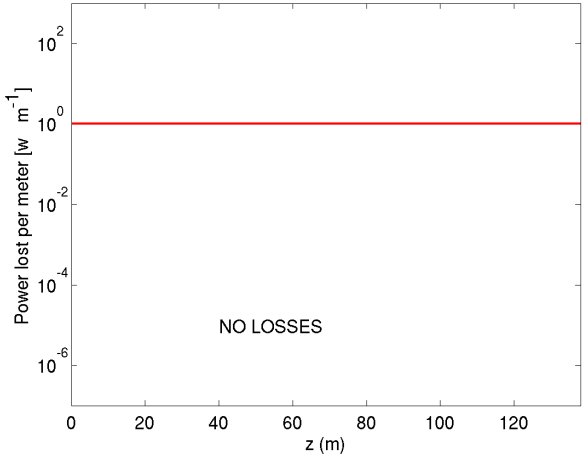


Figure: Losses [W·m^{-1}]



(122) Quads Field $\delta F_{static} = 1.0$ %

Figure: RMS Emittance X

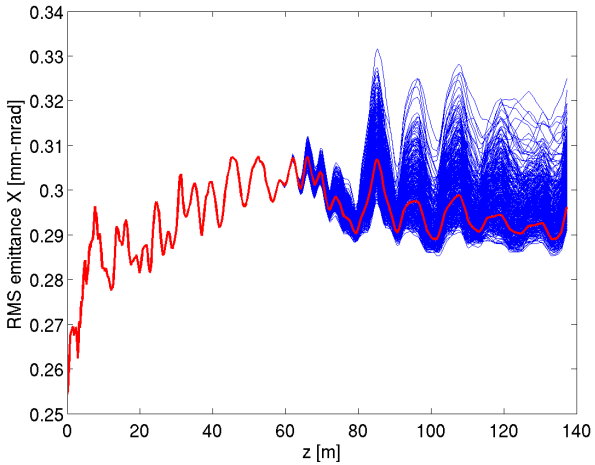


Figure: RMS Emittance Y

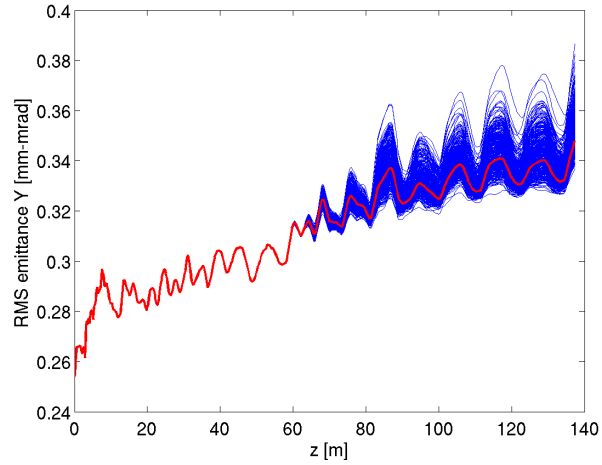


Figure: RMS Emittance Z

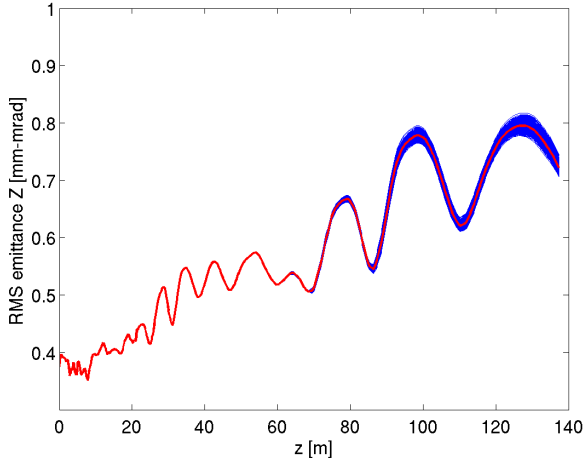
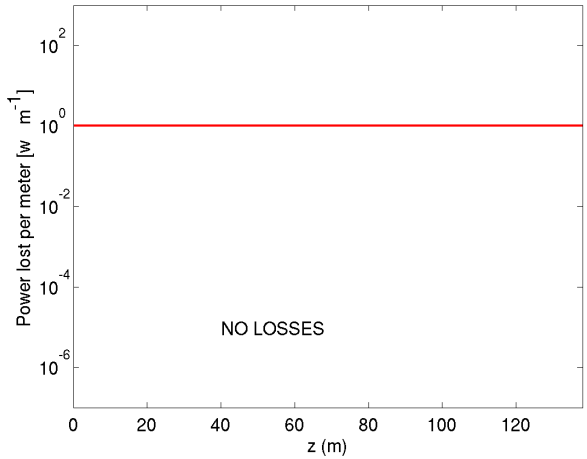


Figure: Losses [W·m^{-1}]



(123) Quads Field $\delta F_{static} = 1.5$ %

Figure: RMS Emittance X

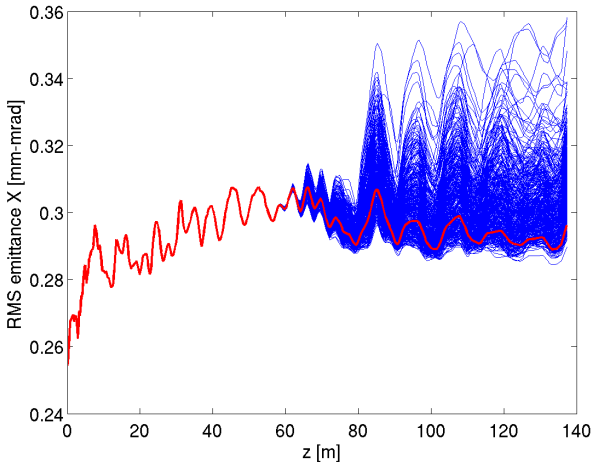


Figure: RMS Emittance Y

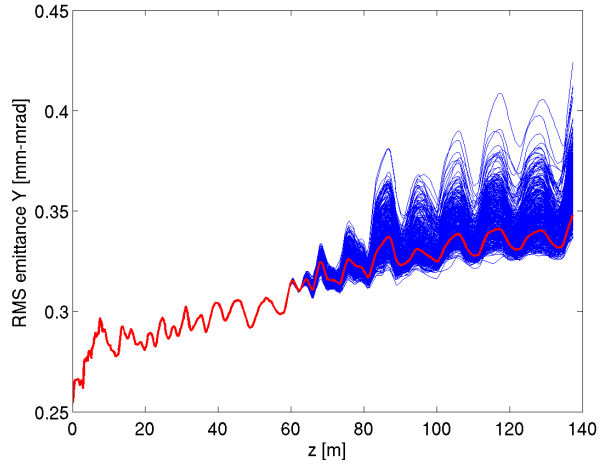


Figure: RMS Emittance Z

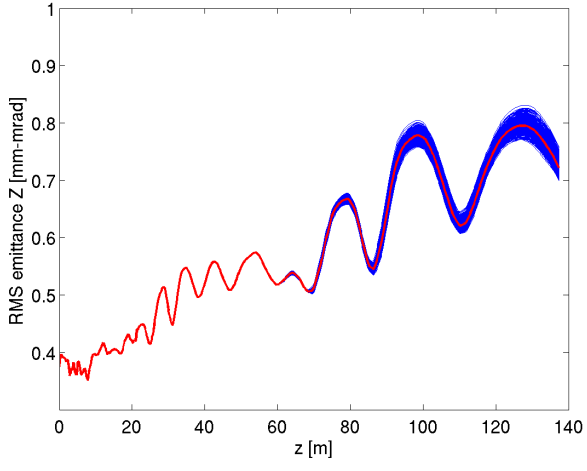
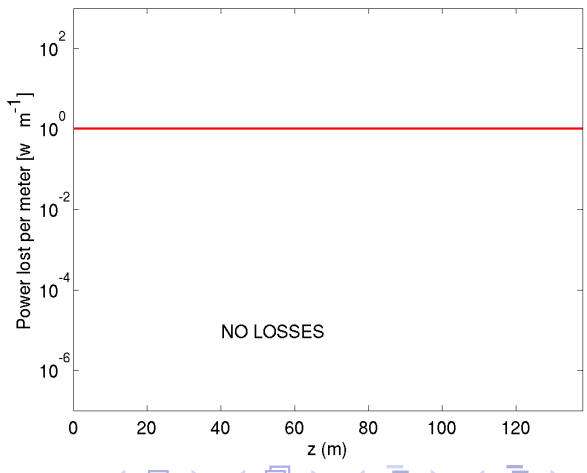


Figure: Losses [W·m^{-1}]



(124) Quads Field $\delta F_{static} = 2.0$ %

Figure: RMS Emittance X

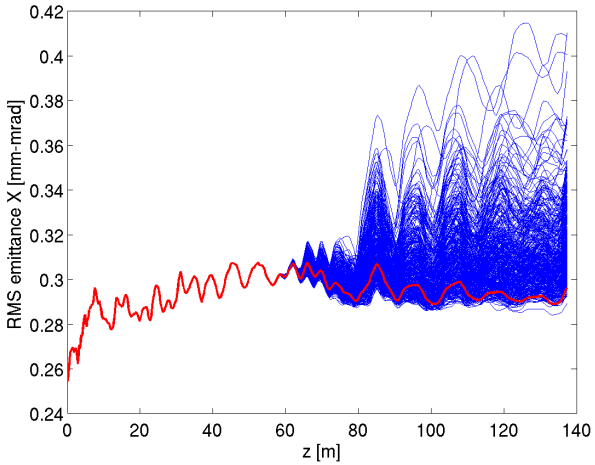


Figure: RMS Emittance Y

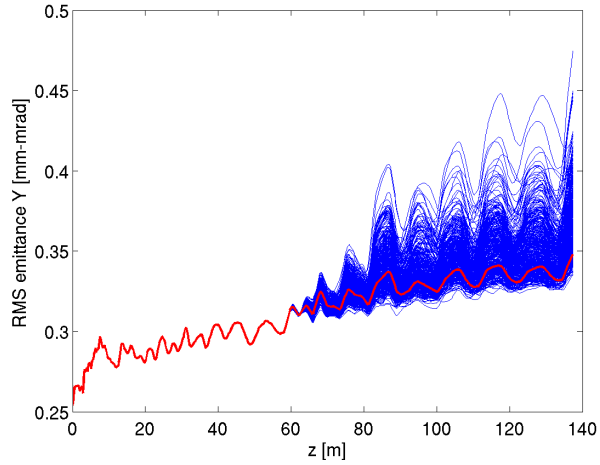


Figure: RMS Emittance Z

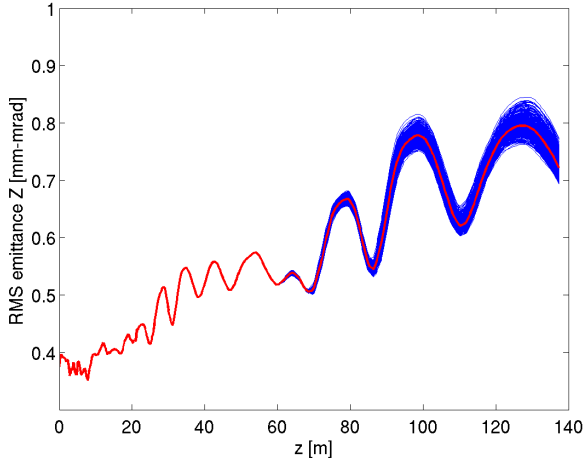
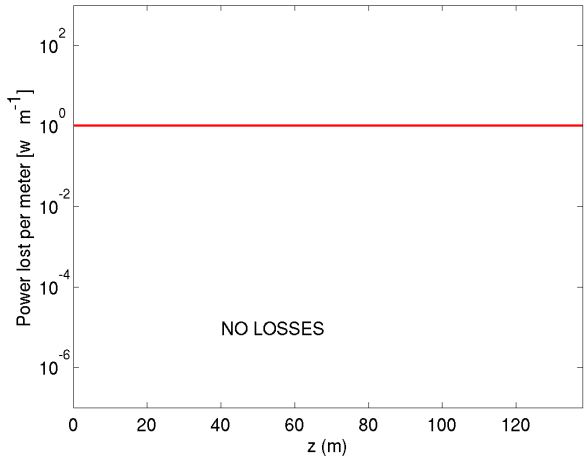


Figure: Losses [W·m^{-1}]



(125) Quads Field $\delta F_{static} = 2.5$ %

Figure: RMS Emittance X

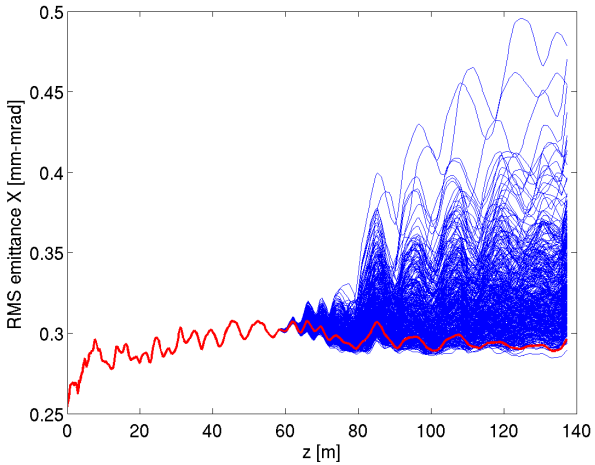


Figure: RMS Emittance Y

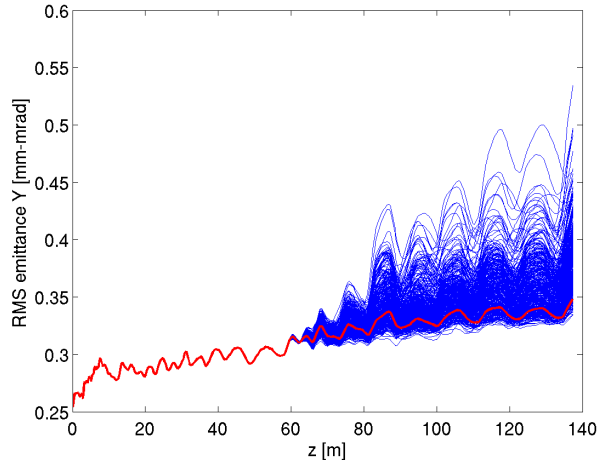


Figure: RMS Emittance Z

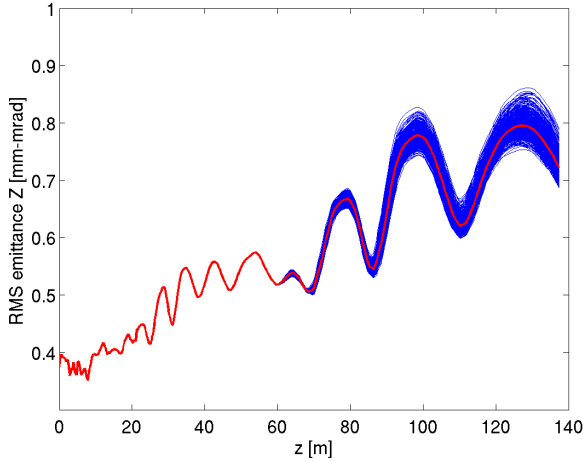
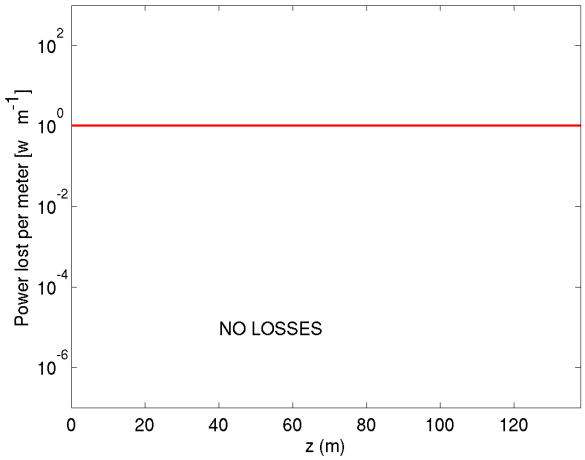


Figure: Losses [W·m^{-1}]



(126) Sol. $\delta_{xy} = 150\ \mu$m

Figure: RMS Emittance X

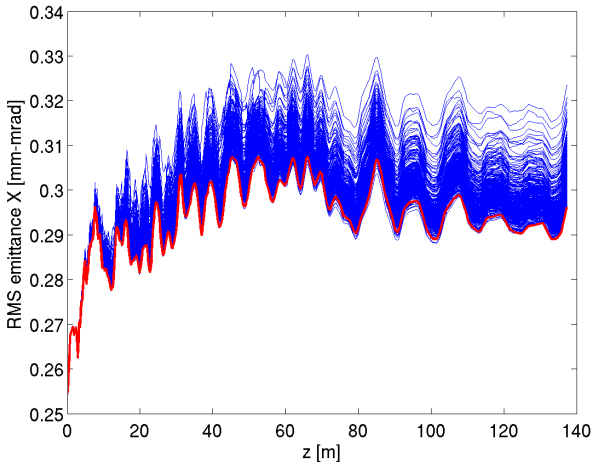


Figure: RMS Emittance Y

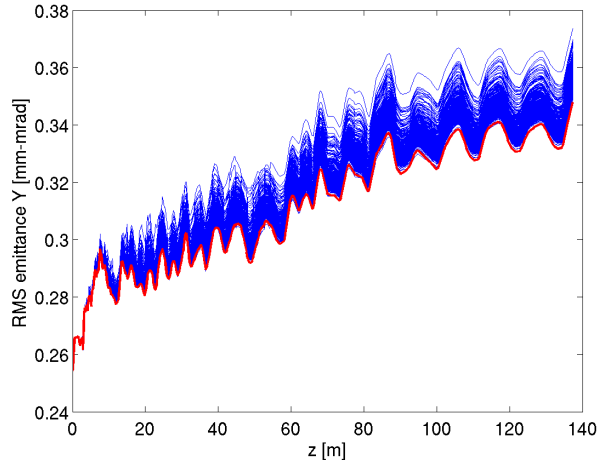


Figure: RMS Emittance Z

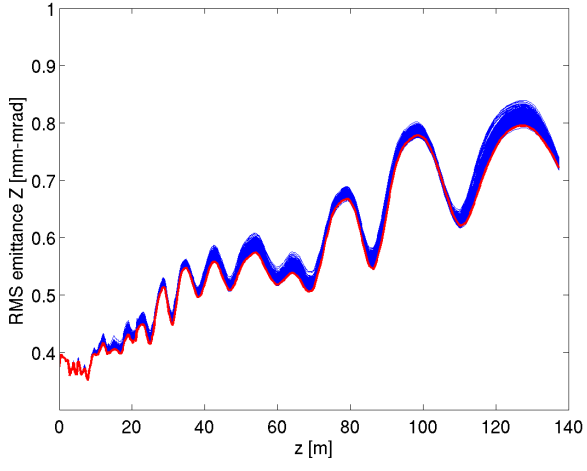
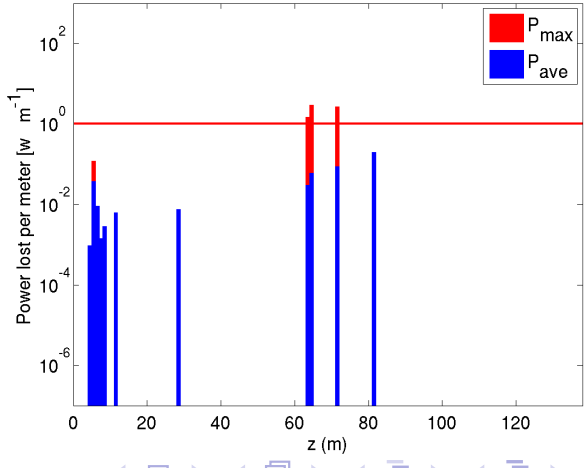


Figure: Losses [W·m^{-1}]



(127) Sol. $\delta_{xy} = 300\ \mu$m

Figure: RMS Emittance X

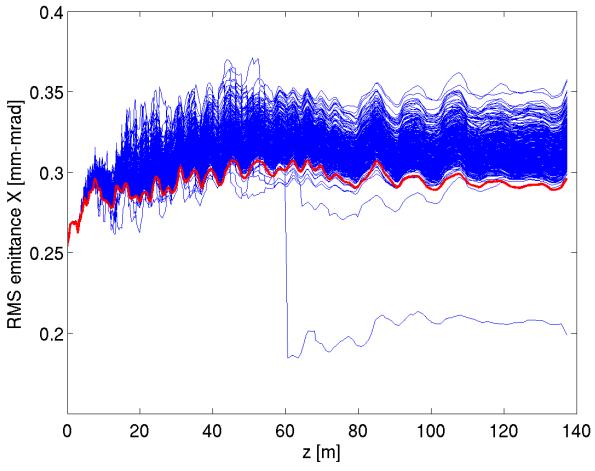


Figure: RMS Emittance Y

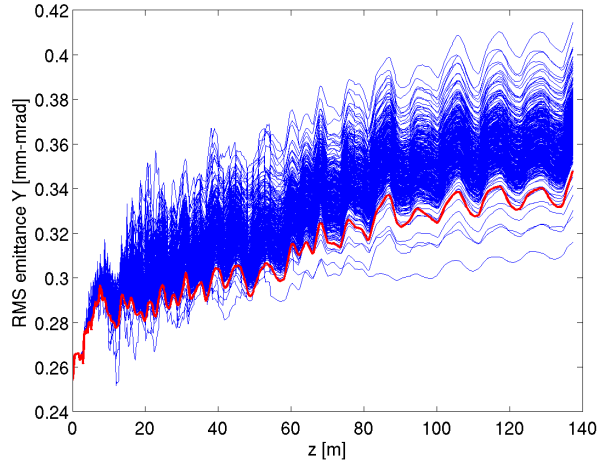


Figure: RMS Emittance Z

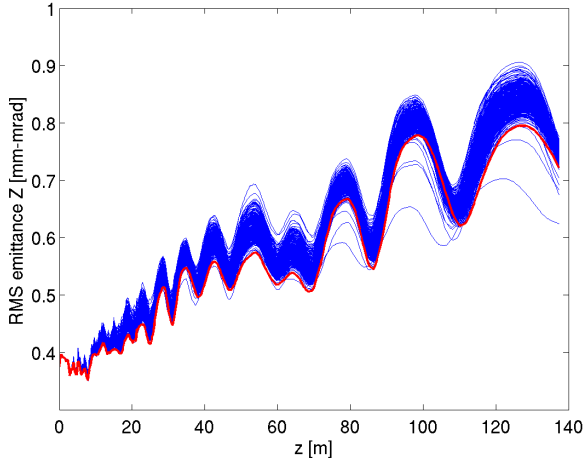
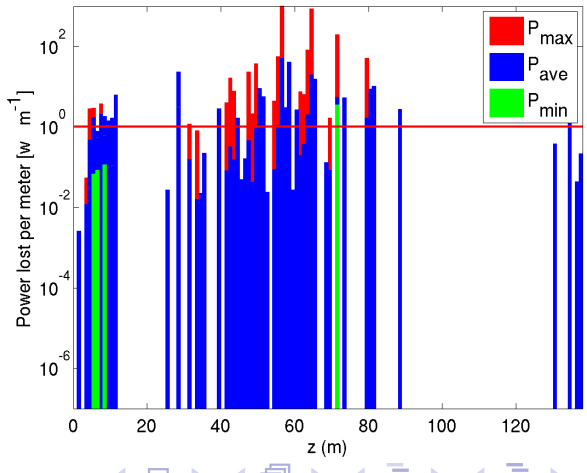


Figure: Losses [W·m^{-1}]



(128) Sol. $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

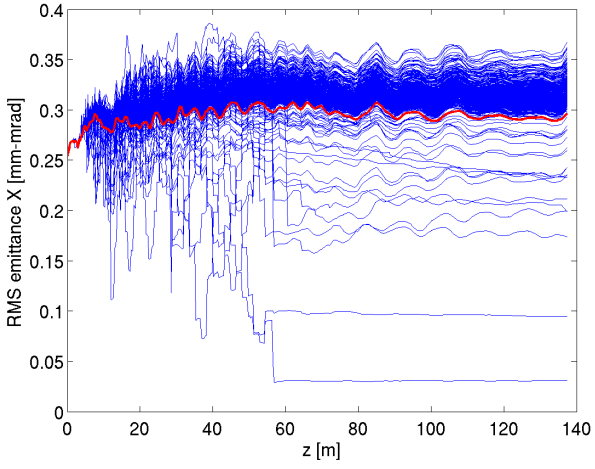


Figure: RMS Emittance Y

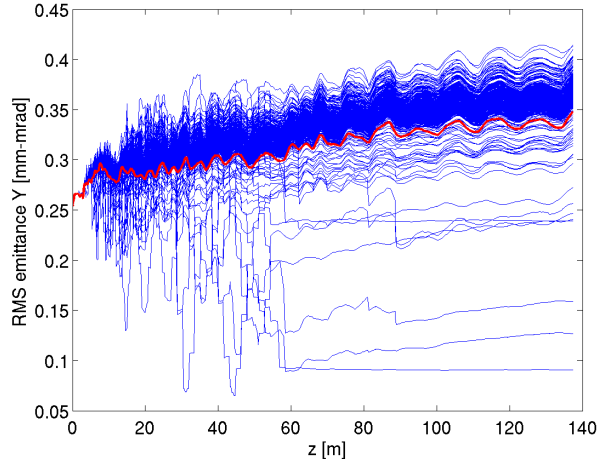


Figure: RMS Emittance Z

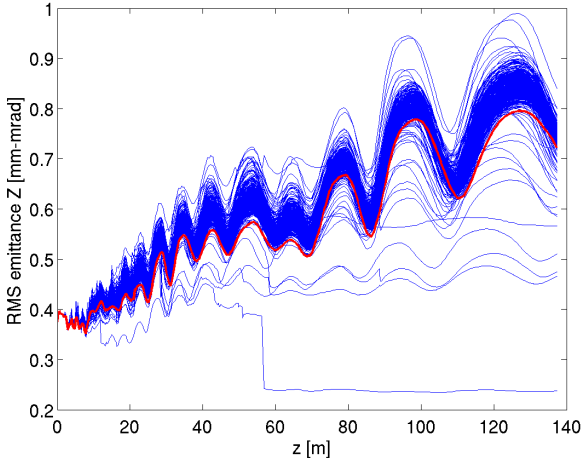
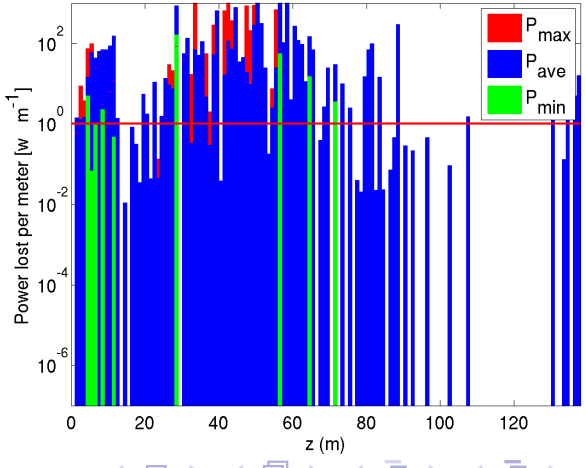


Figure: Losses [W·m^{-1}]



(129) Sol. $\delta_{xy} = 750\ \mu$m

Figure: RMS Emittance X

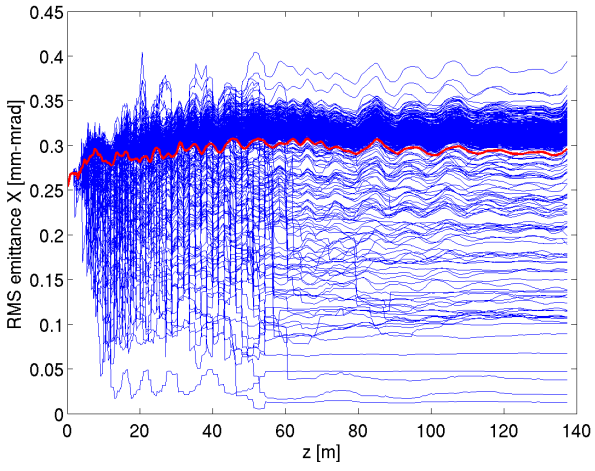


Figure: RMS Emittance Y

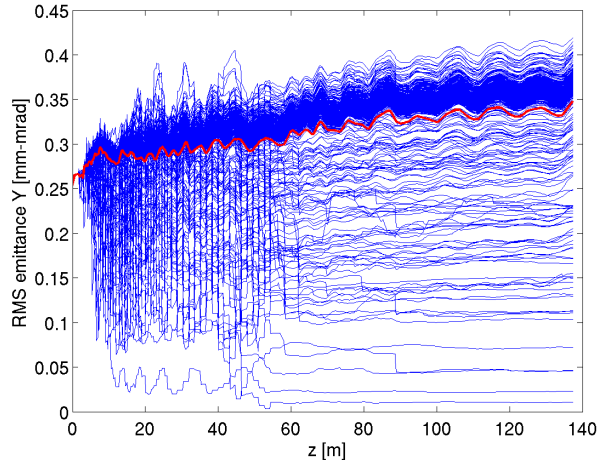


Figure: RMS Emittance Z

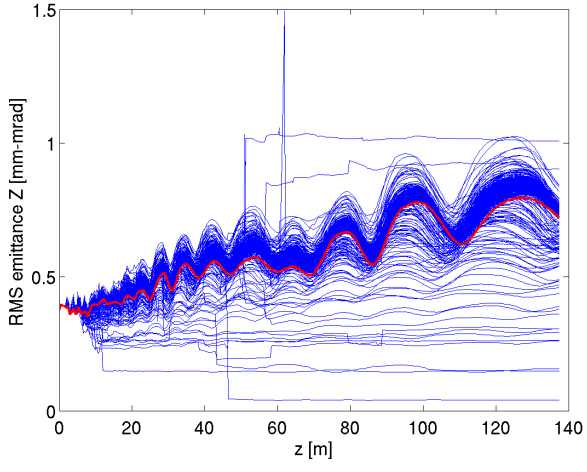
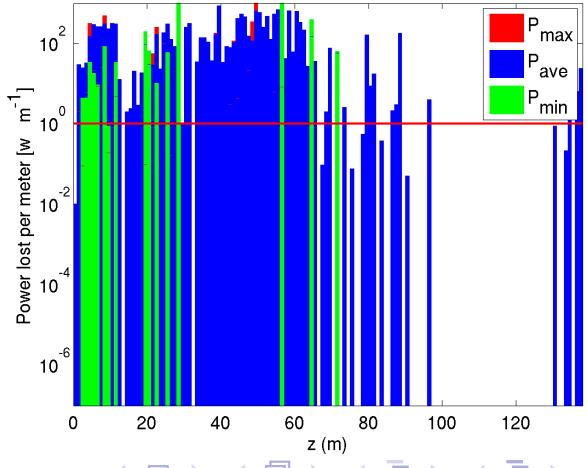


Figure: Losses [W·m^{-1}]



(130) Sol. $\delta_{xy} = 1000\ \mu$m

Figure: RMS Emittance X

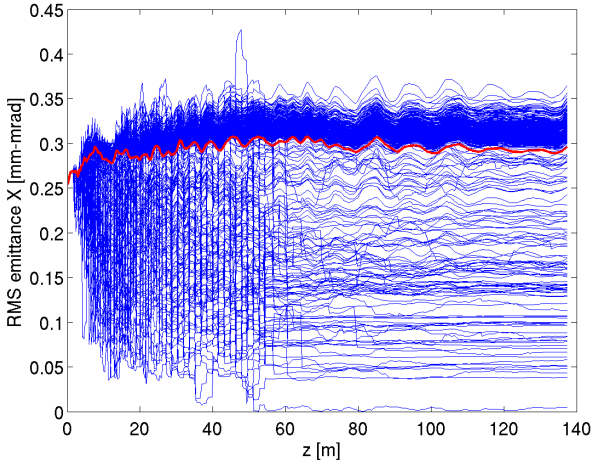


Figure: RMS Emittance Y

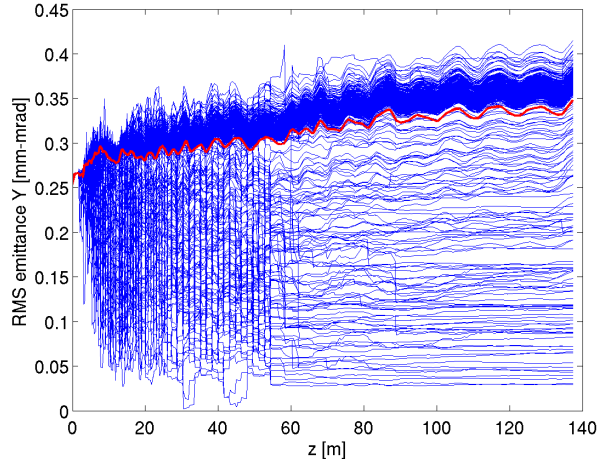


Figure: RMS Emittance Z

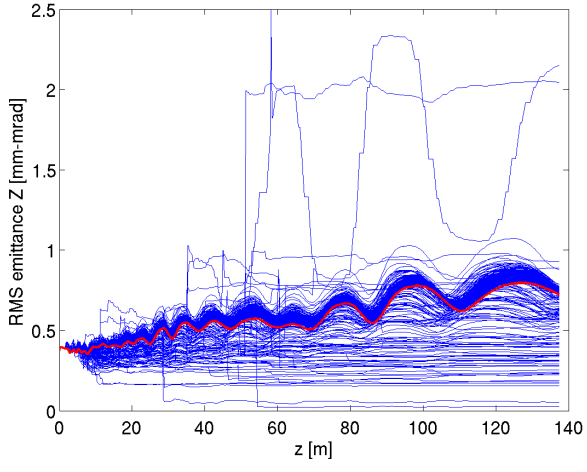
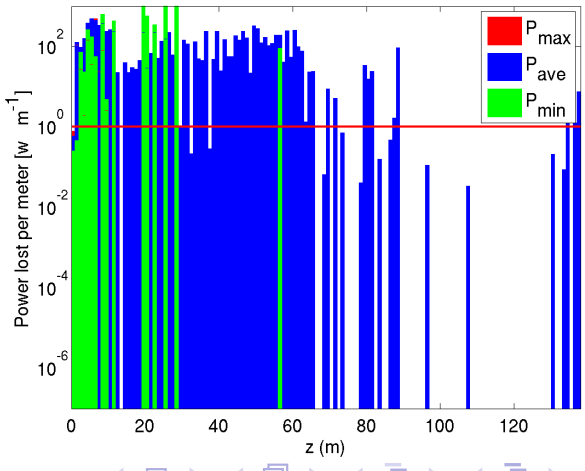


Figure: Losses [W·m^{-1}]



(131) Quads $\delta_{xy} = 150\ \mu$m

Figure: RMS Emittance X

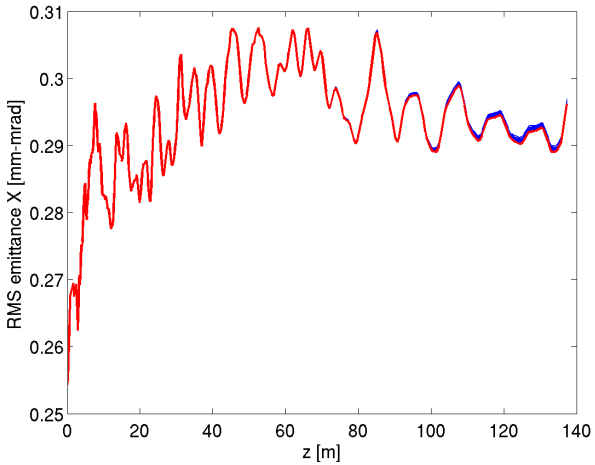


Figure: RMS Emittance Y

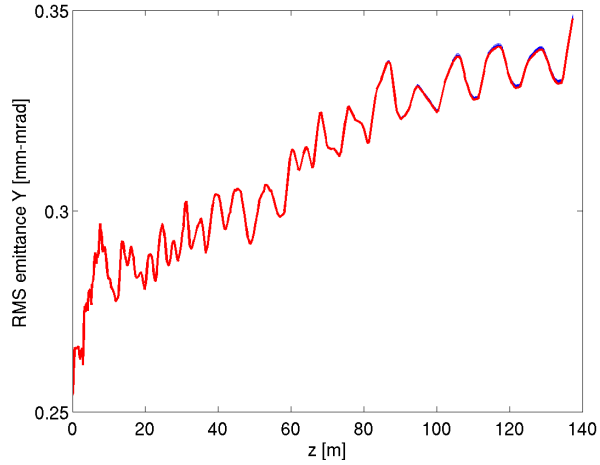


Figure: RMS Emittance Z

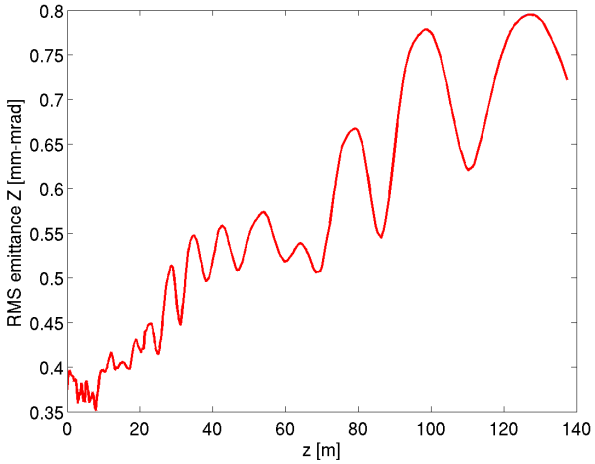
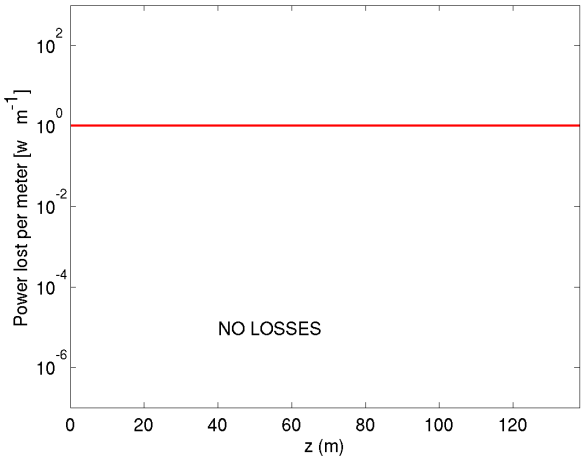


Figure: Losses [W·m^{-1}]



(132) Quads. $\delta_{xy} = 300\ \mu$m

Figure: RMS Emittance X

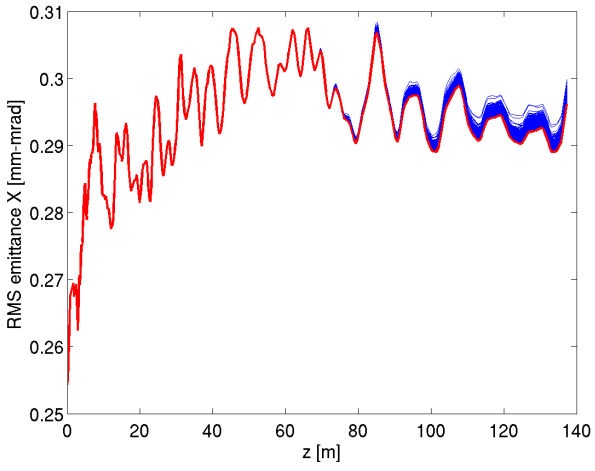


Figure: RMS Emittance Y

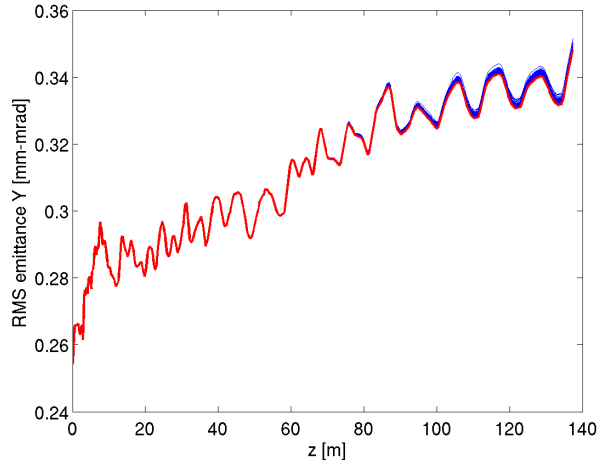


Figure: RMS Emittance Z

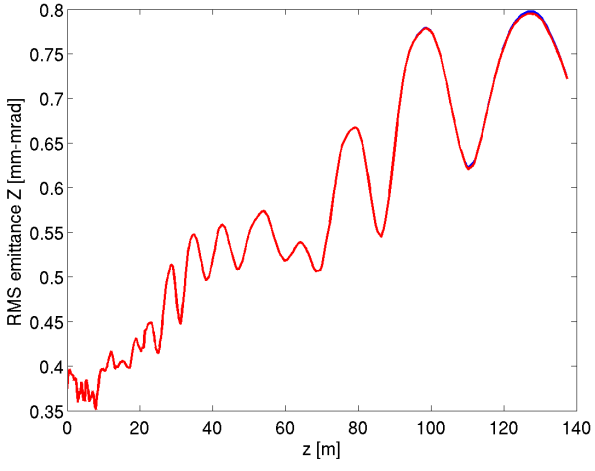
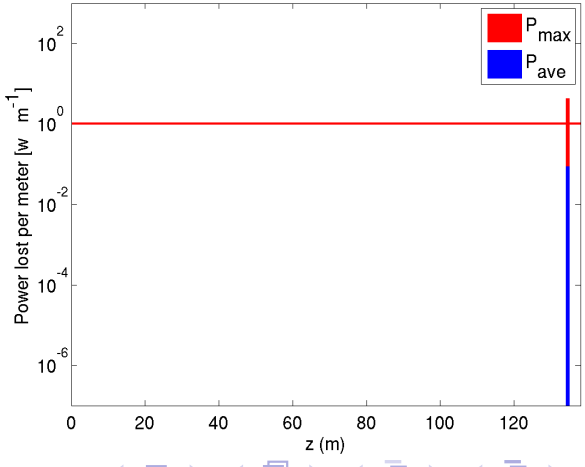


Figure: Losses [W·m^{-1}]



(133) Quads. $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

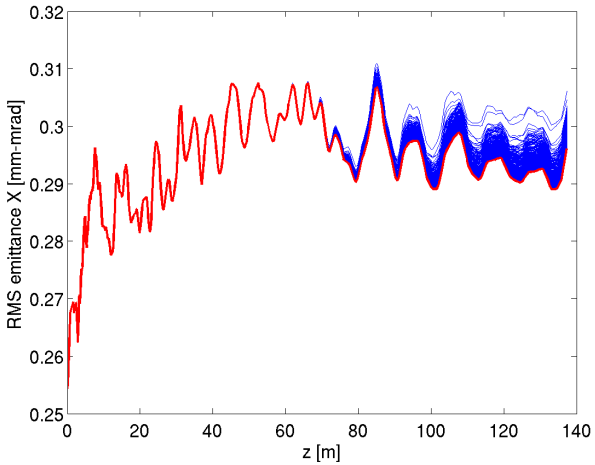


Figure: RMS Emittance Y

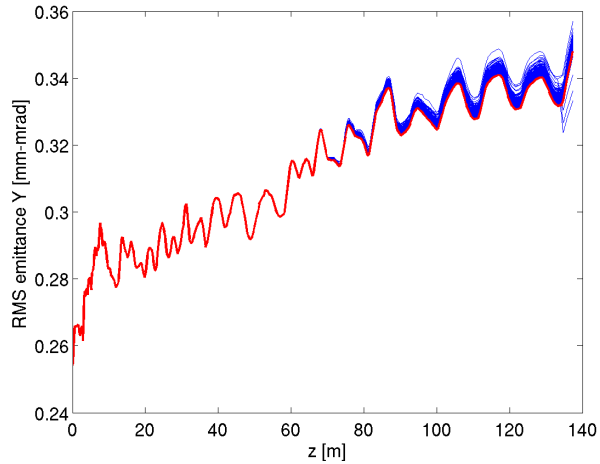


Figure: RMS Emittance Z

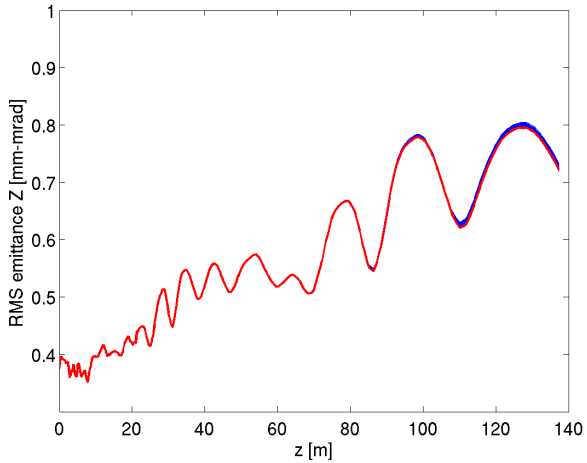
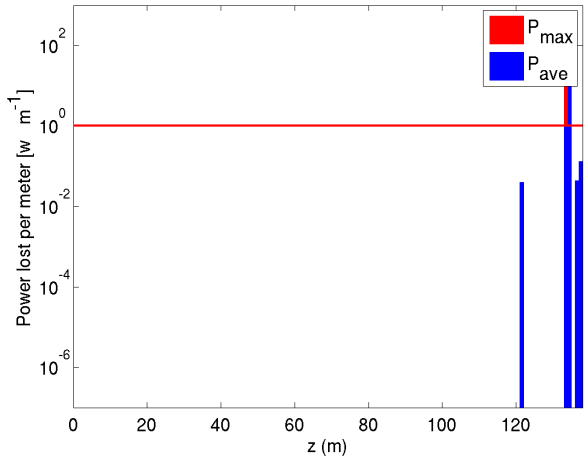


Figure: Losses [W·m^{-1}]



(134) Quads. $\delta_{xy} = 750\ \mu$m

Figure: RMS Emittance X

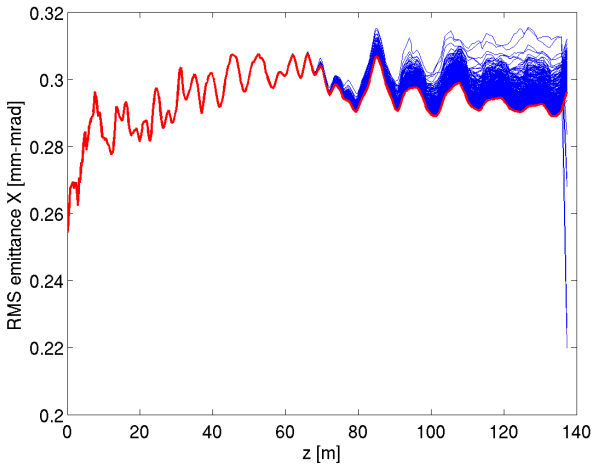


Figure: RMS Emittance Y

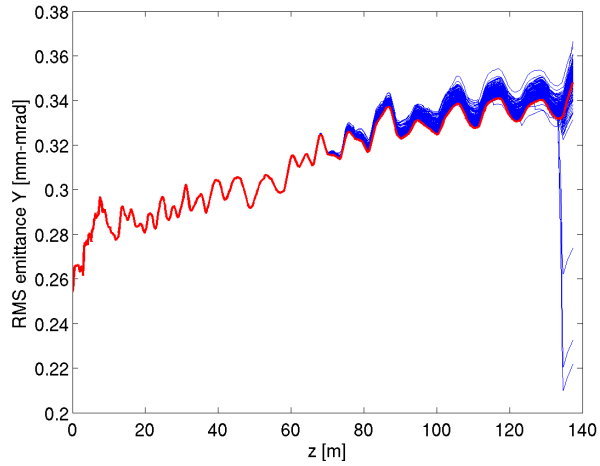


Figure: RMS Emittance Z

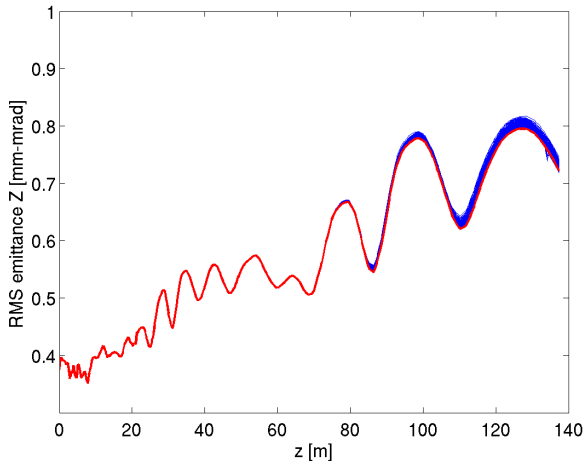
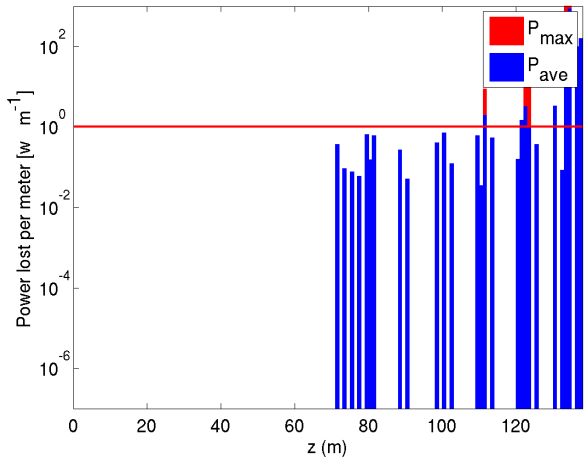


Figure: Losses [W·m^{-1}]



(135) Quads. $\delta_{xy} = 1000\ \mu$m

Figure: RMS Emittance X

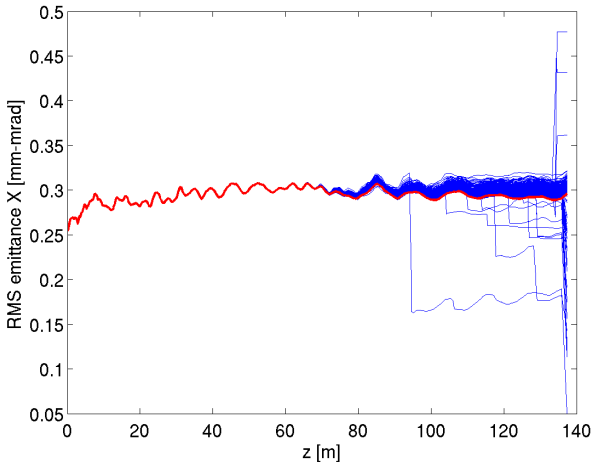


Figure: RMS Emittance Y

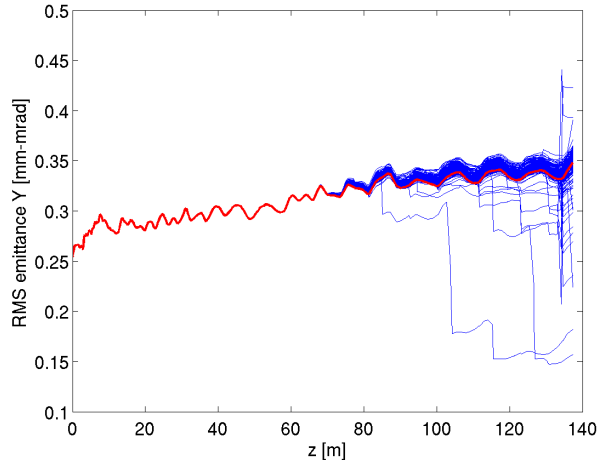


Figure: RMS Emittance Z

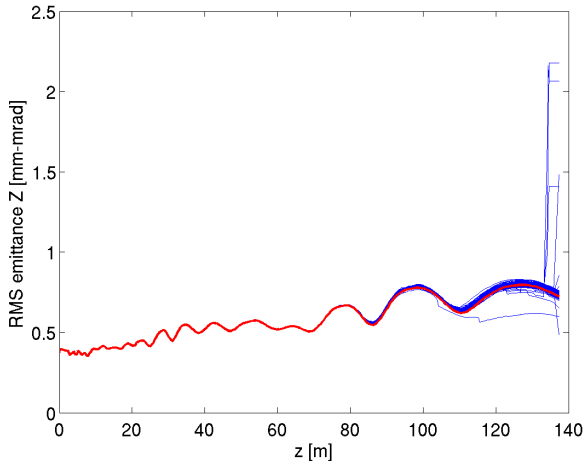
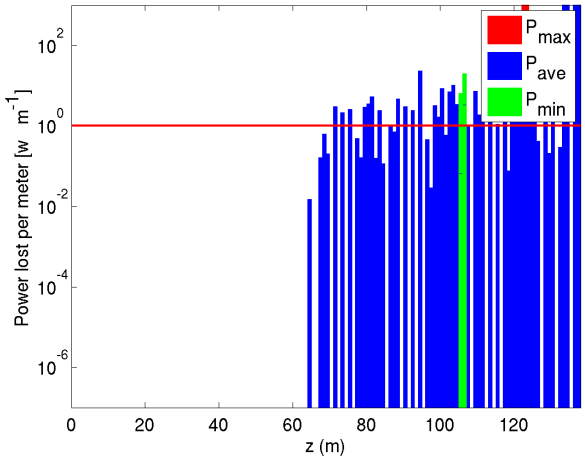


Figure: Losses [W·m^{-1}]



(136) Cavity $\delta_{xy} = 150\ \mu$m

Figure: RMS Emittance X

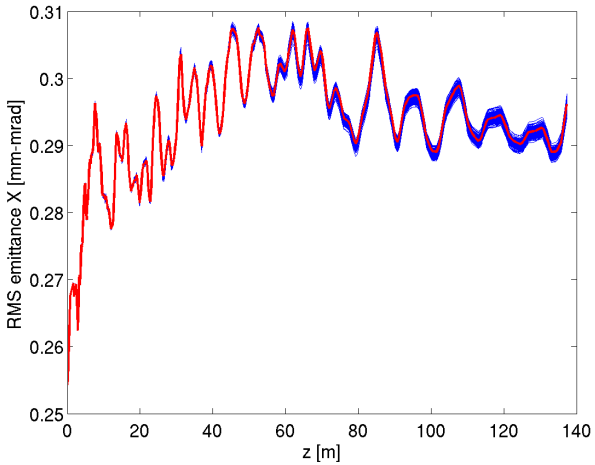


Figure: RMS Emittance Y

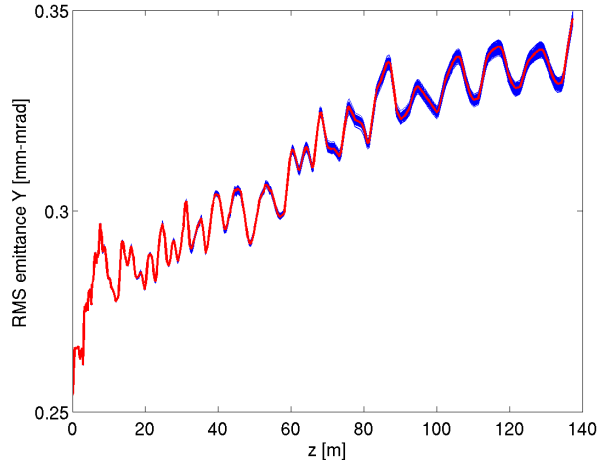


Figure: RMS Emittance Z

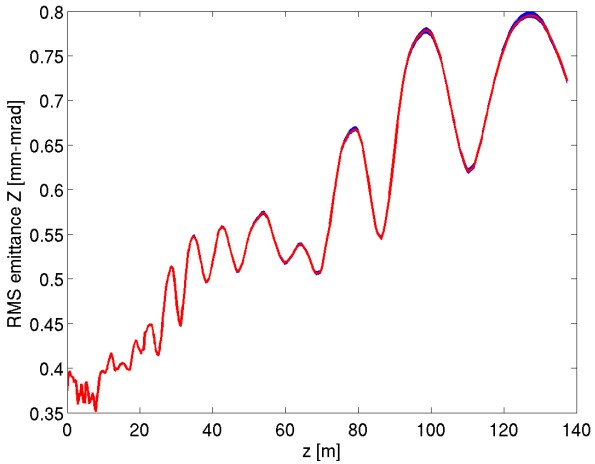
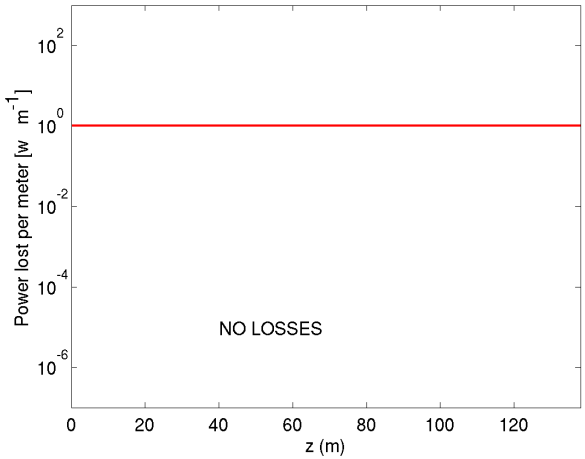


Figure: Losses [W·m^{-1}]



(137) Cavity $\delta_{xy} = 300\ \mu$m

Figure: RMS Emittance X

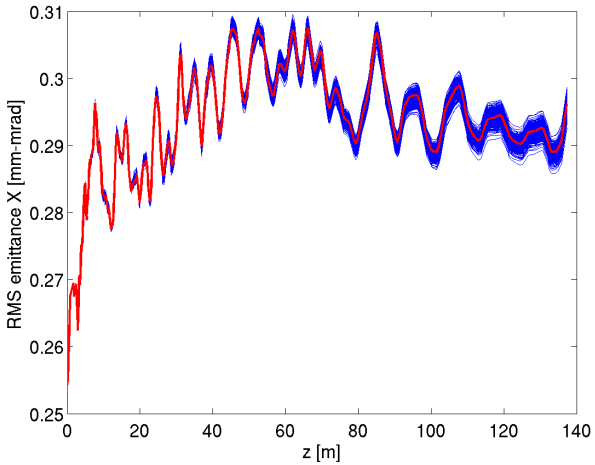


Figure: RMS Emittance Y

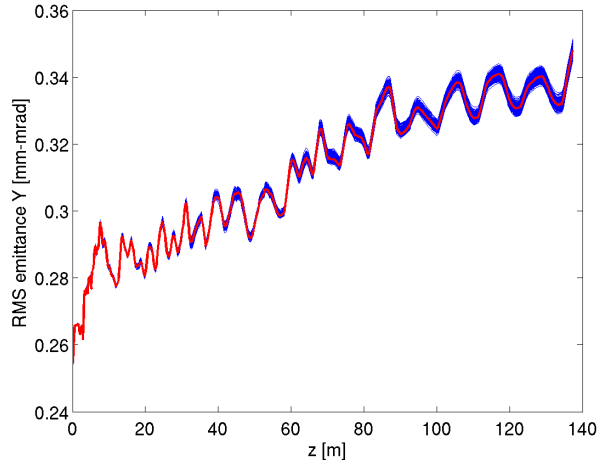


Figure: RMS Emittance Z

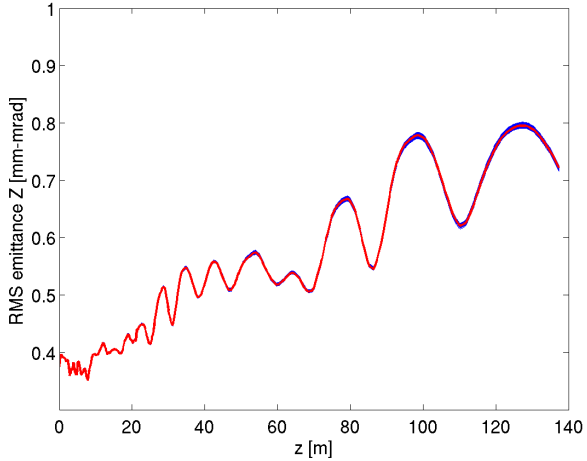
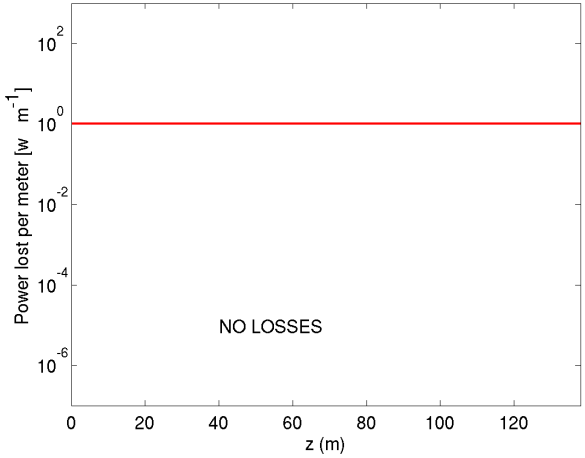


Figure: Losses [W·m^{-1}]



(138) Cavity $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

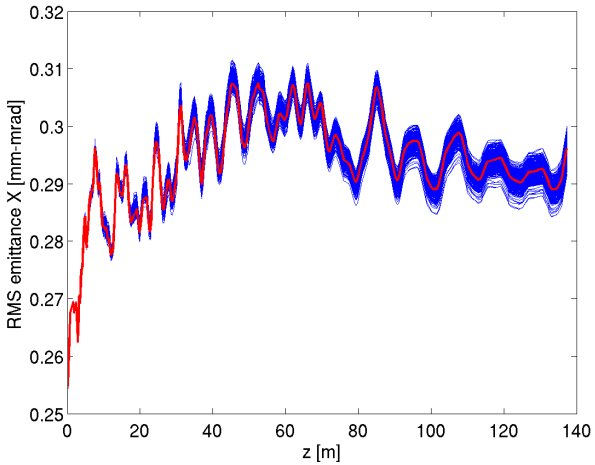


Figure: RMS Emittance Y

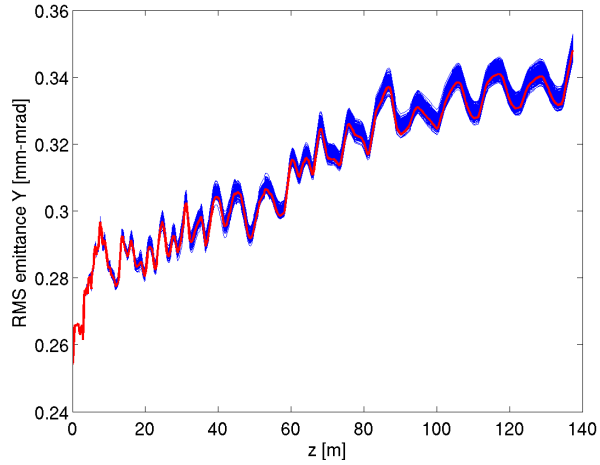


Figure: RMS Emittance Z

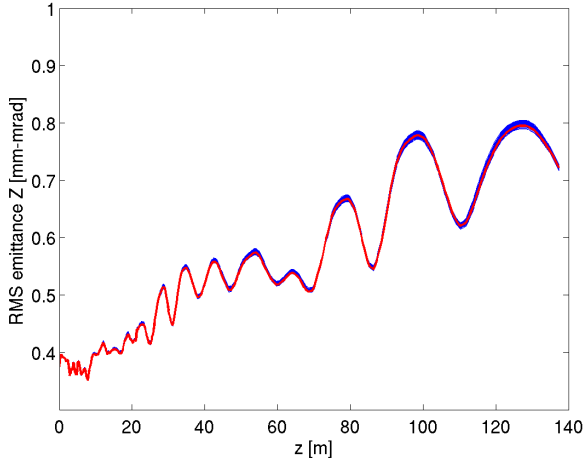
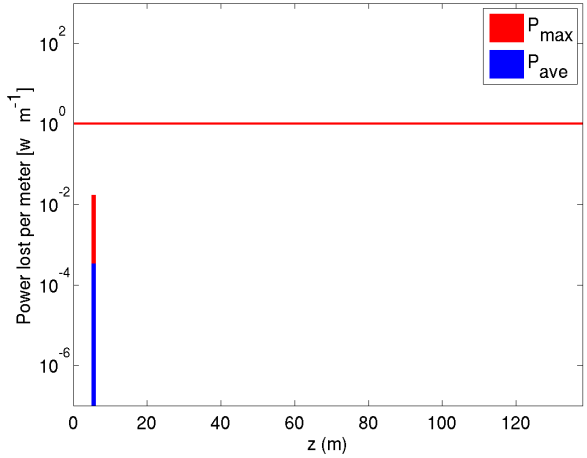


Figure: Losses [W·m^{-1}]



(139) Cavity $\delta_{xy} = 750\ \mu$m

Figure: RMS Emittance X

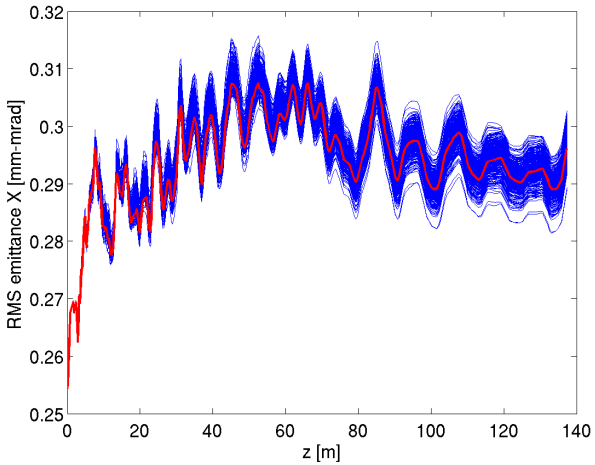


Figure: RMS Emittance Y

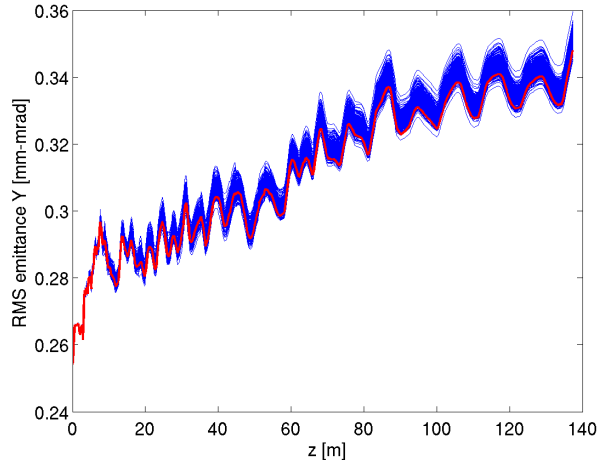


Figure: RMS Emittance Z

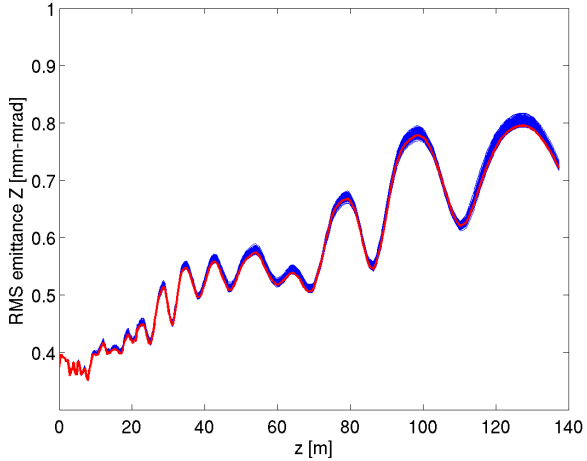
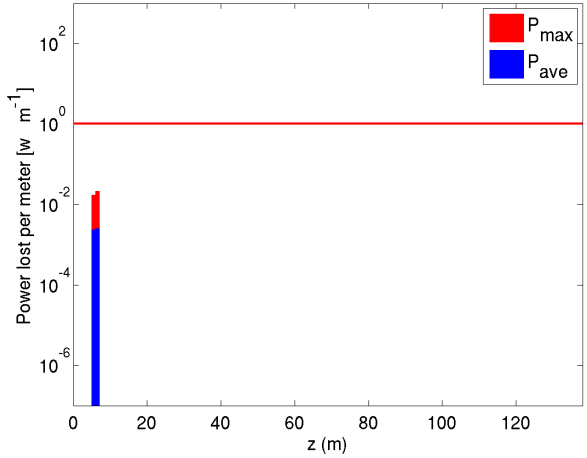


Figure: Losses [W·m^{-1}]



(140) Cavity $\delta_{xy} = 1000\ \mu$m

Figure: RMS Emittance X

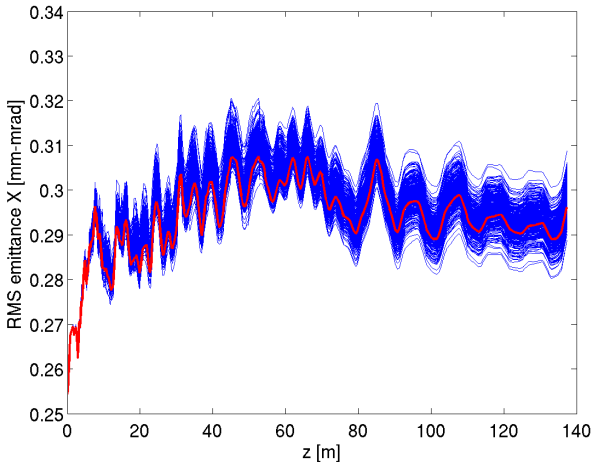


Figure: RMS Emittance Y

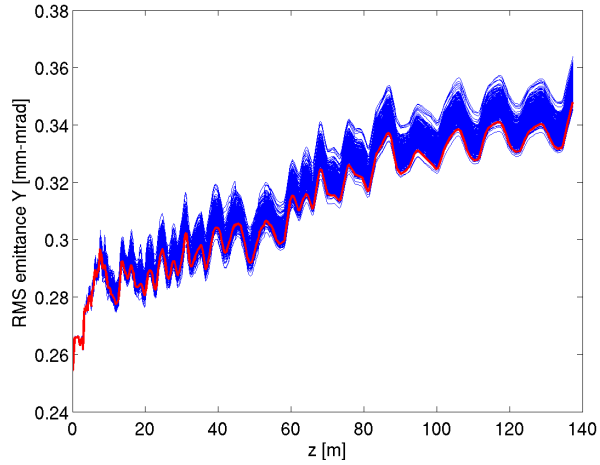


Figure: RMS Emittance Z

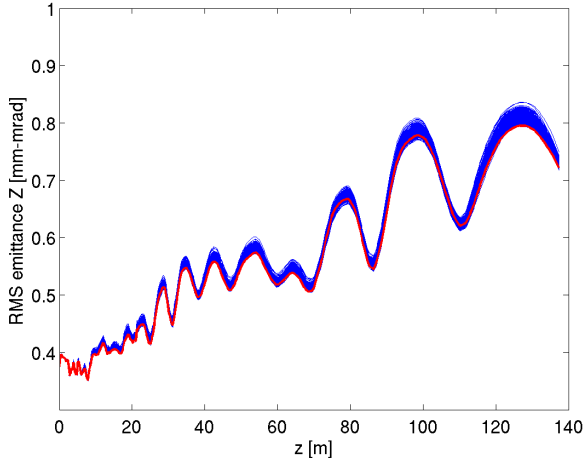
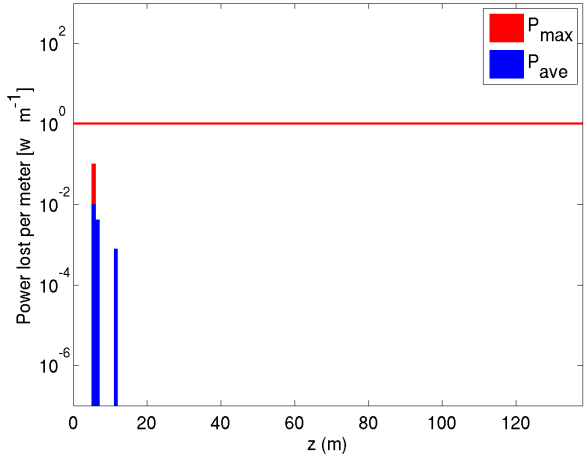


Figure: Losses [W·m^{-1}]



(141) Cav. Phase + Cav. Field $\delta\phi_{dyn.} = 1^\circ$ $\delta F_{dyn.} = 1\%$

Figure: RMS Emittance X

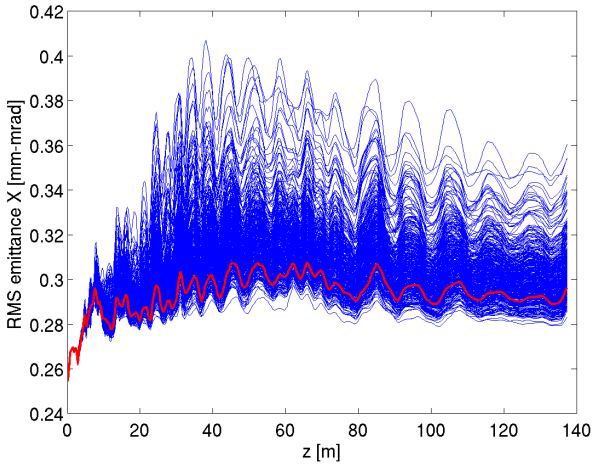


Figure: RMS Emittance Y

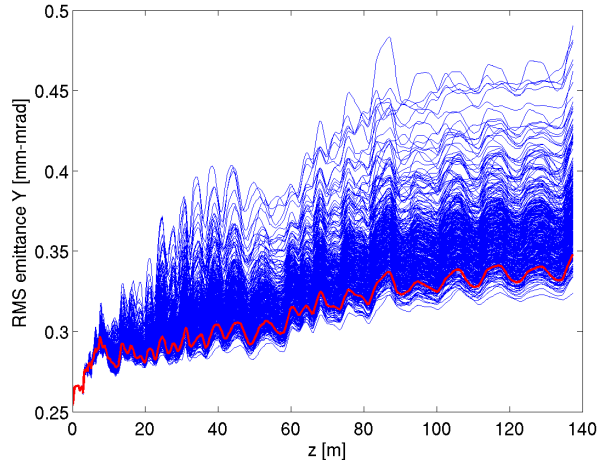


Figure: RMS Emittance Z

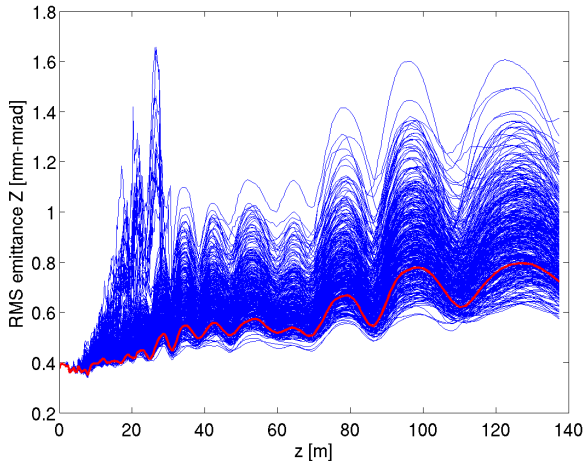
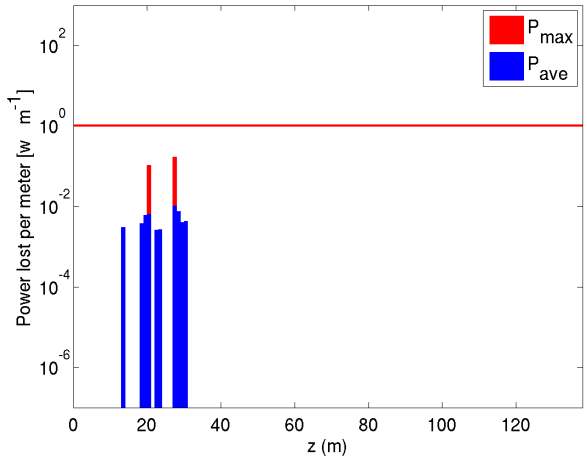


Figure: Losses [W·m^{-1}]



(142) 141+ Sol. Field $\delta F_{dyn.} = 0.5\ \%$ $\delta F_{static} = 0.5\ \%$

Figure: RMS Emittance X

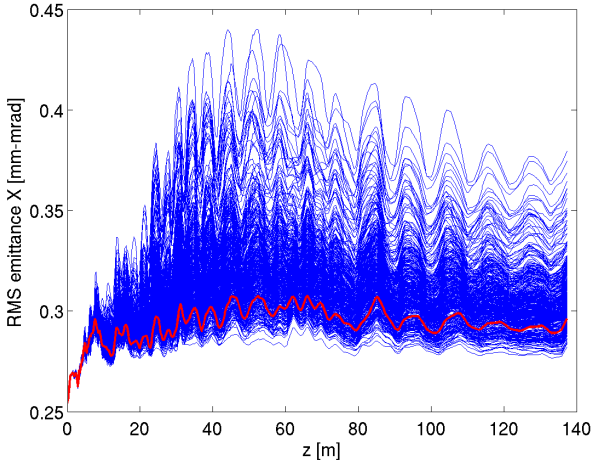


Figure: RMS Emittance Y

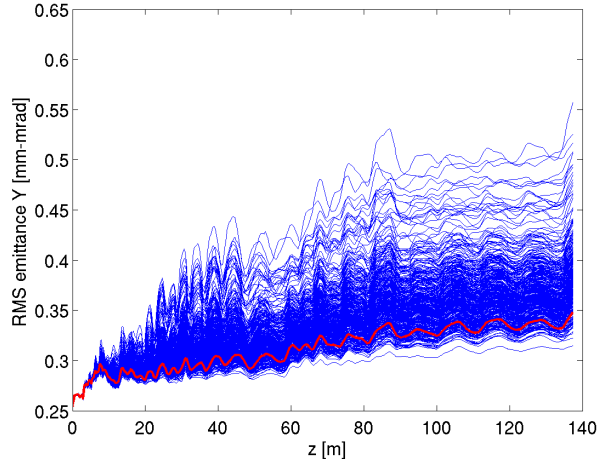


Figure: RMS Emittance Z

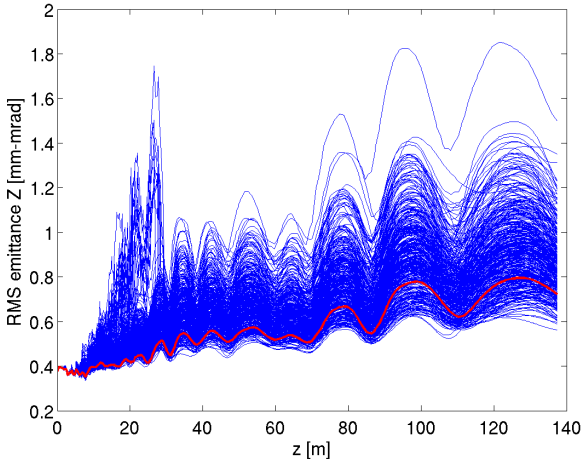
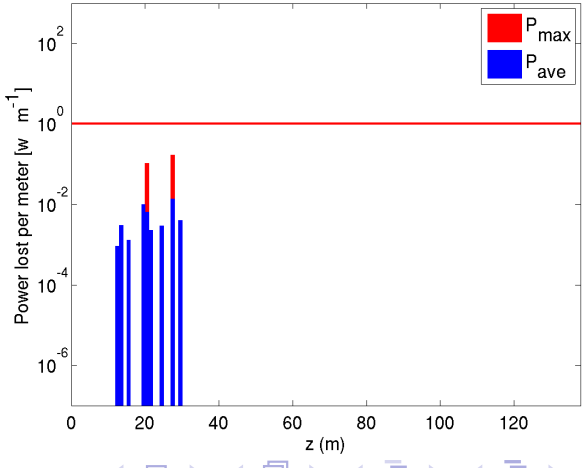


Figure: Losses [W·m^{-1}]



(143) 142 + Quads Fields $\delta F_{dyn.} = 0.5\ \%$ $\delta F_{static} = 0.05\ \%$

Figure: RMS Emittance X

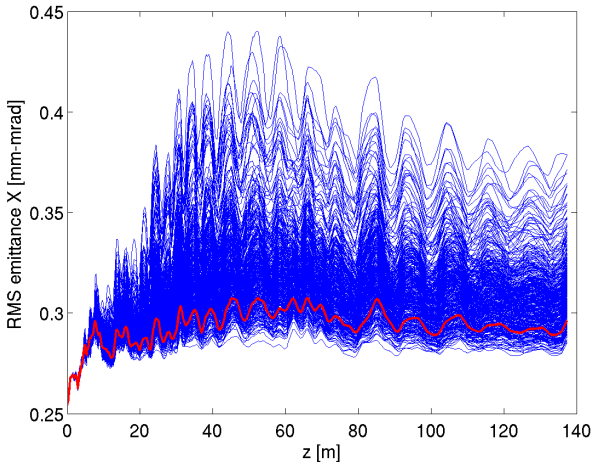


Figure: RMS Emittance Y

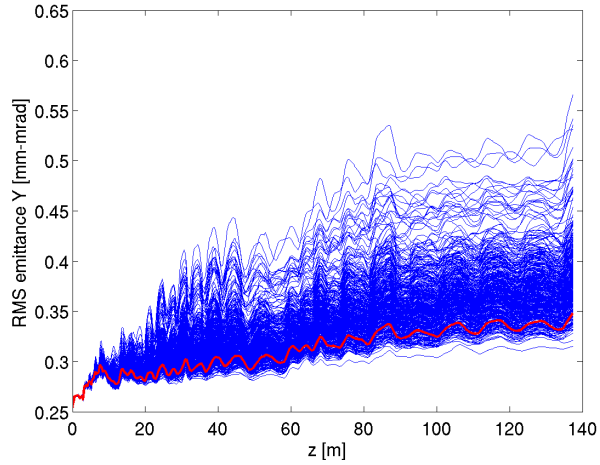


Figure: RMS Emittance Z

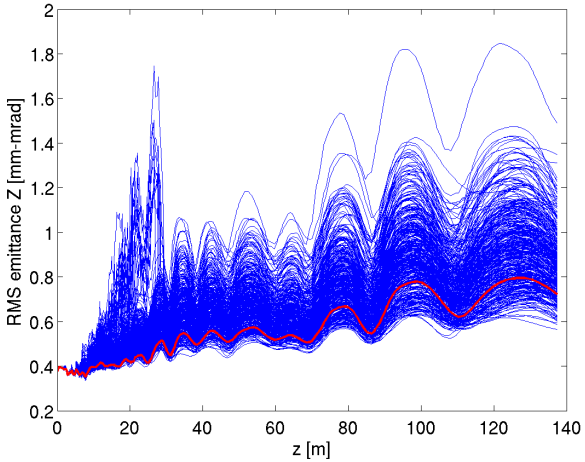
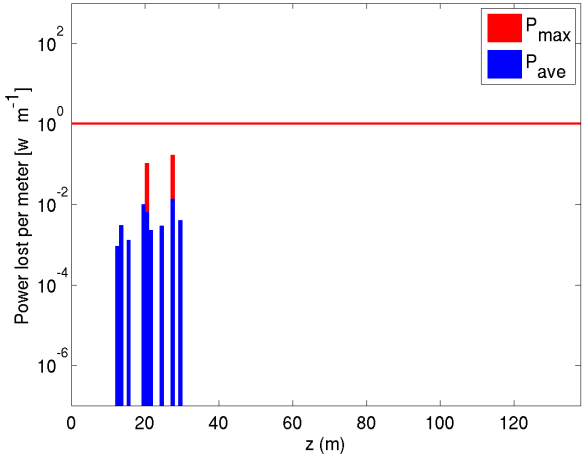


Figure: Losses [W·m^{-1}]



(144) 143 + Cav. $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

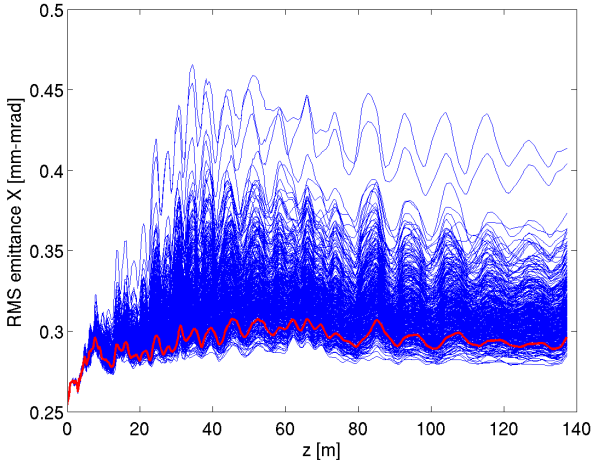


Figure: RMS Emittance Y

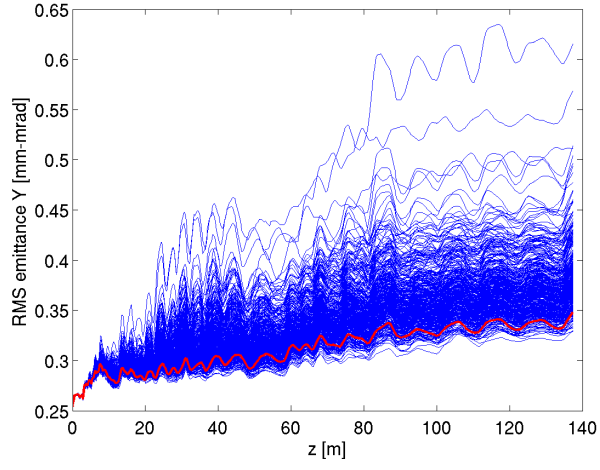


Figure: RMS Emittance Z

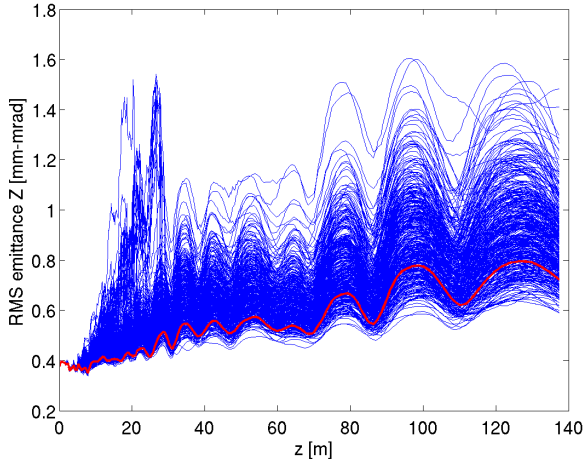
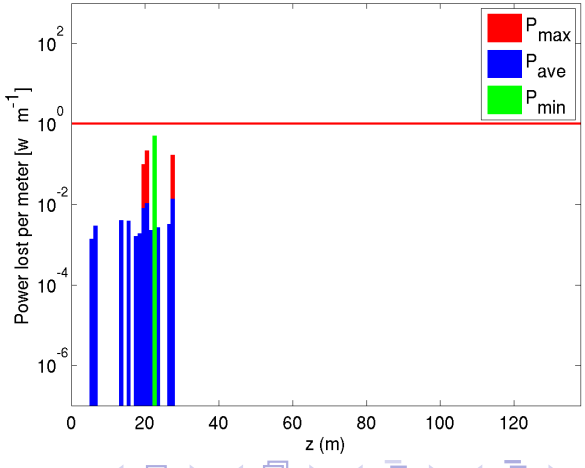


Figure: Losses [W·m^{-1}]



(145) 144 + Cav. $\phi_z = 2$ mrad

Figure: RMS Emittance X

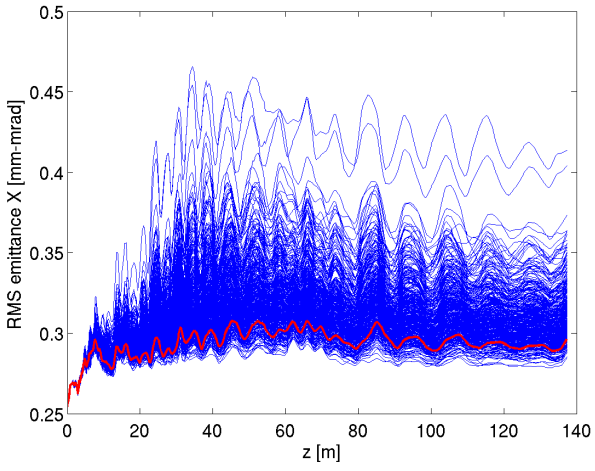


Figure: RMS Emittance Y

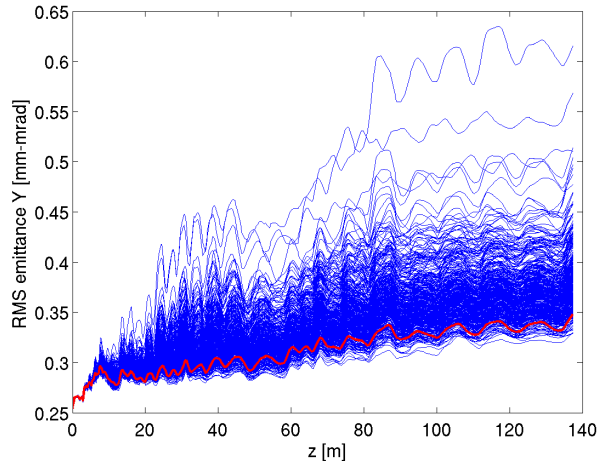


Figure: RMS Emittance Z

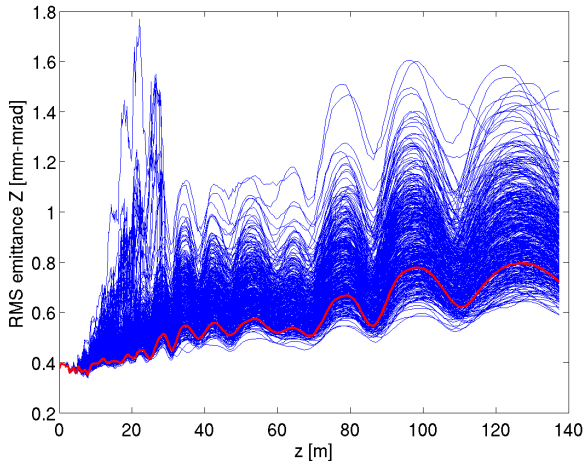
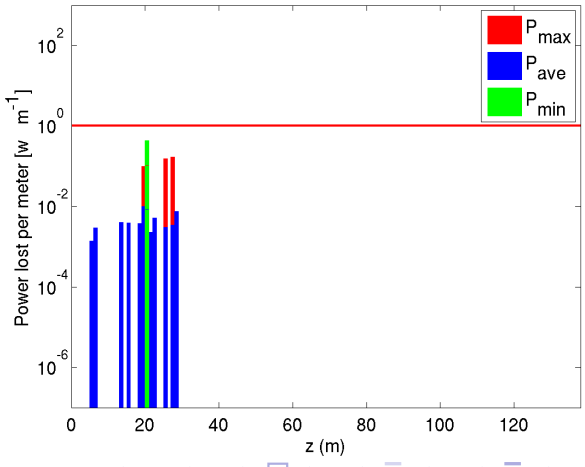


Figure: Losses [W·m^{-1}]



(146) 145 + Sol. $\delta_{xy} = 150\ \mu$m

Figure: RMS Emittance X

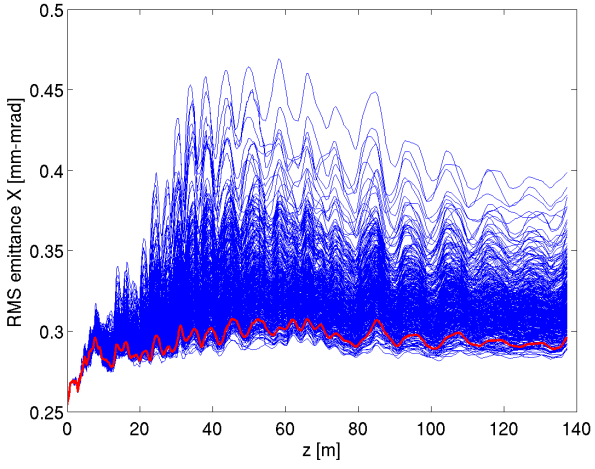


Figure: RMS Emittance Y

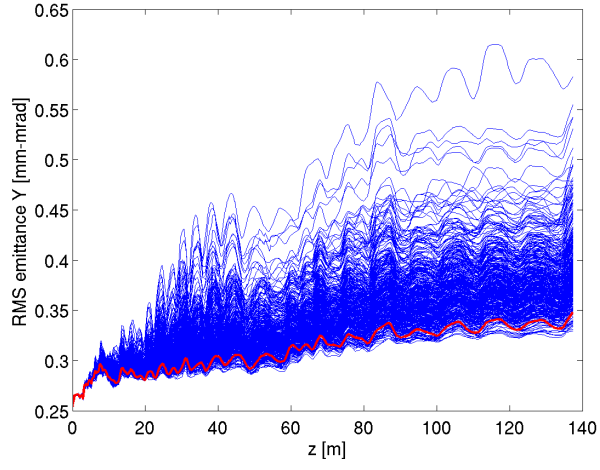


Figure: RMS Emittance Z

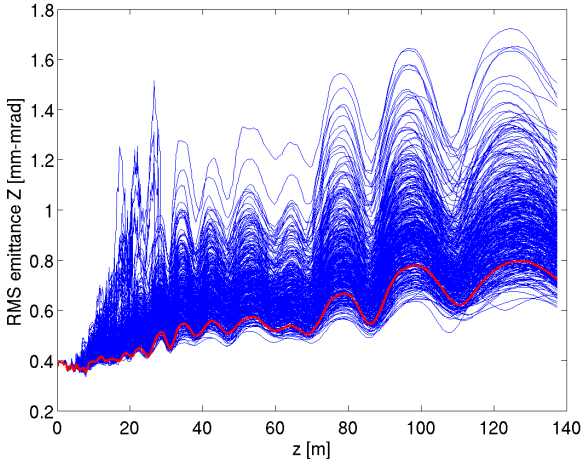
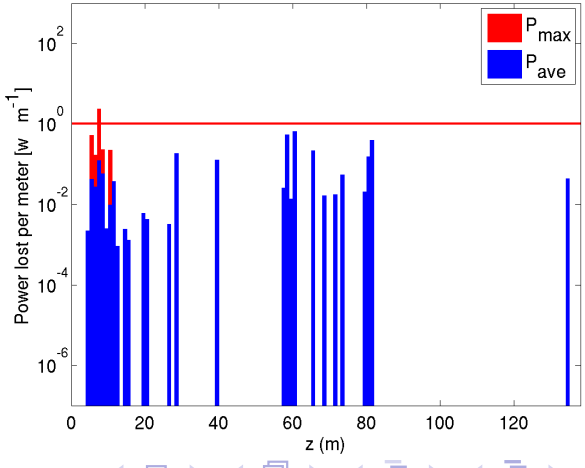


Figure: Losses [W·m^{-1}]



(147) 146 + Sol. $\delta_{xy} = 300\ \mu$m

Figure: RMS Emittance X

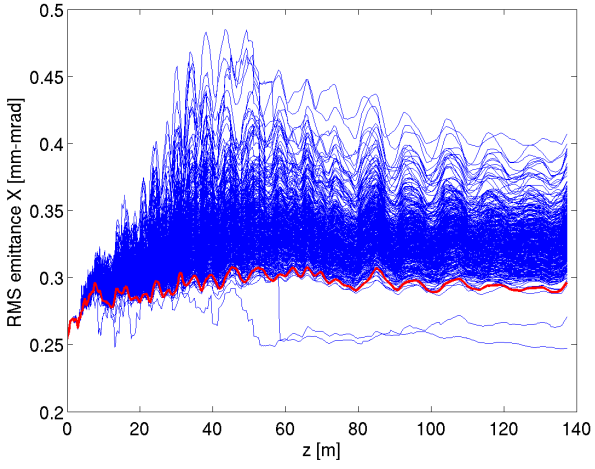


Figure: RMS Emittance Y

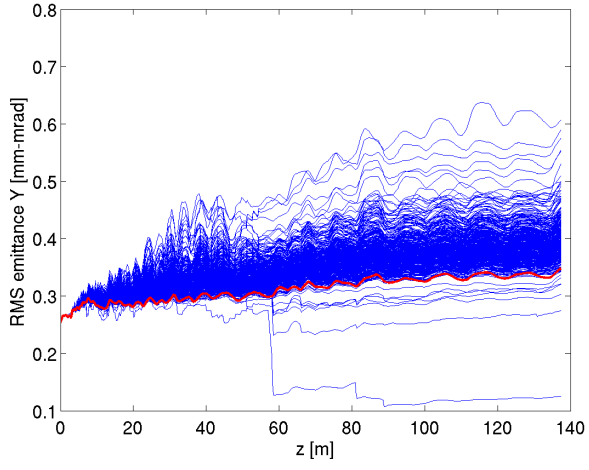


Figure: RMS Emittance Z

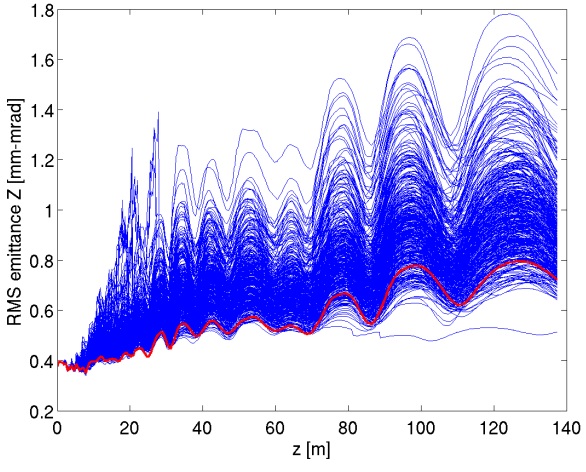
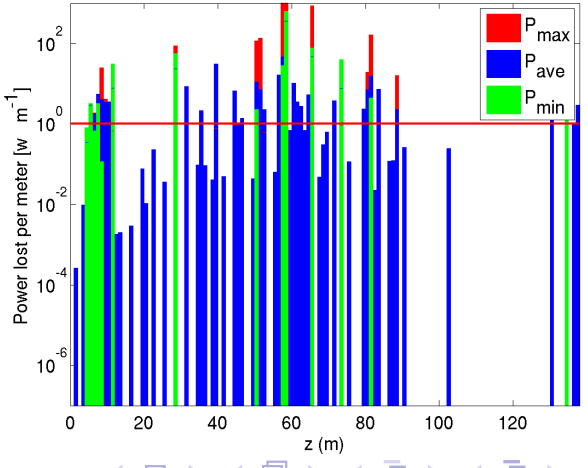


Figure: Losses [W·m^{-1}]



(148) 147 + Sol. $\delta_{xy} = 500\ \mu$m

Figure: RMS Emittance X

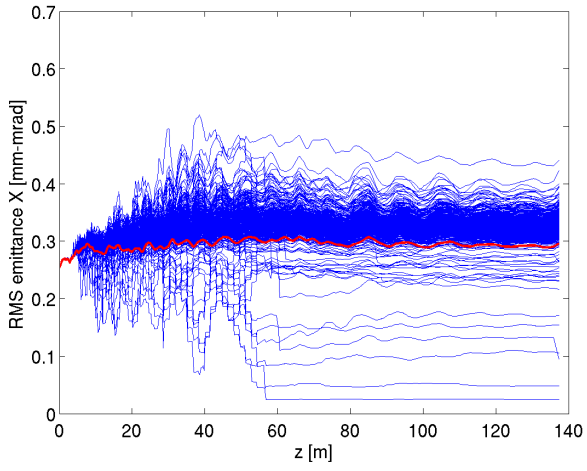


Figure: RMS Emittance Y

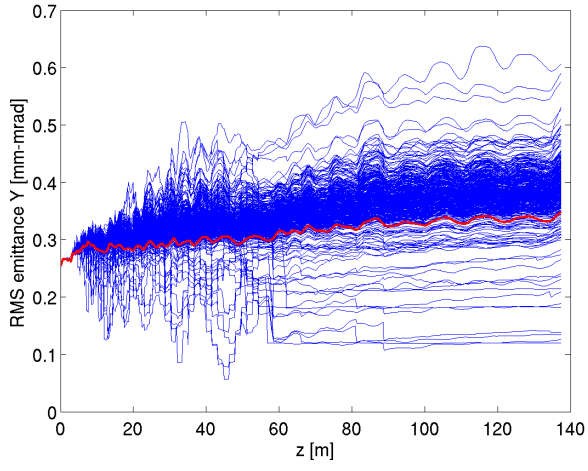


Figure: RMS Emittance Z

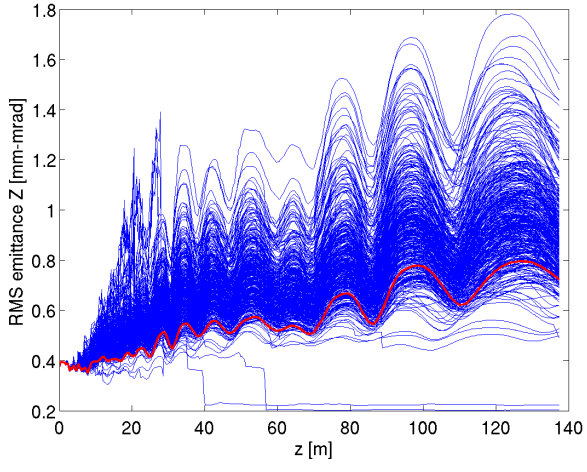
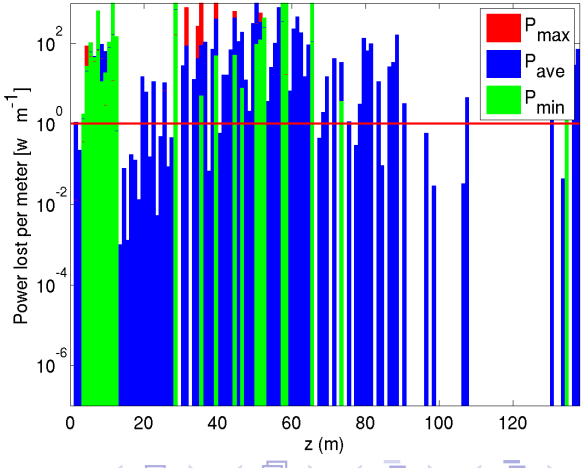


Figure: Losses [W·m^{-1}]



(149) 148 + Sol. $\delta_{xy} = 750\ \mu$m

Figure: RMS Emittance X

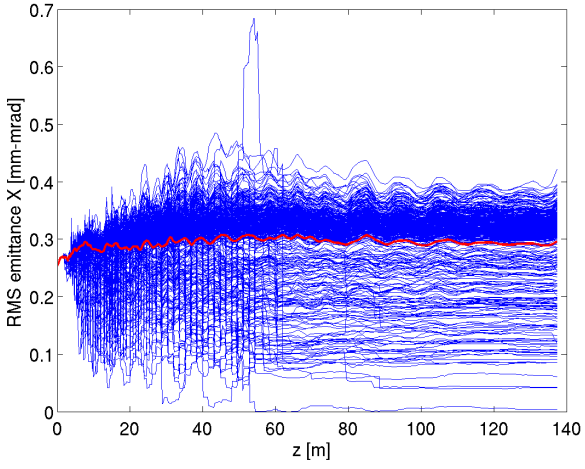


Figure: RMS Emittance Y

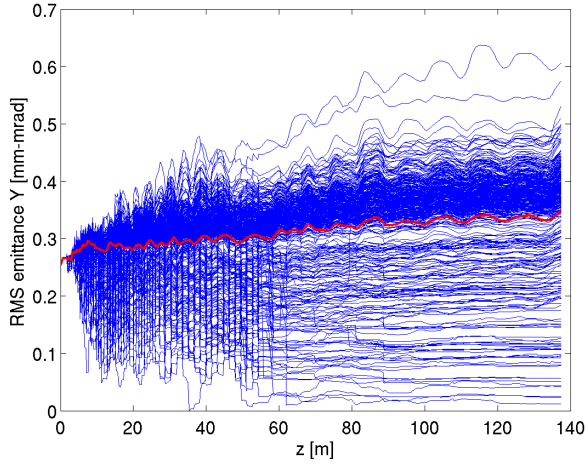


Figure: RMS Emittance Z

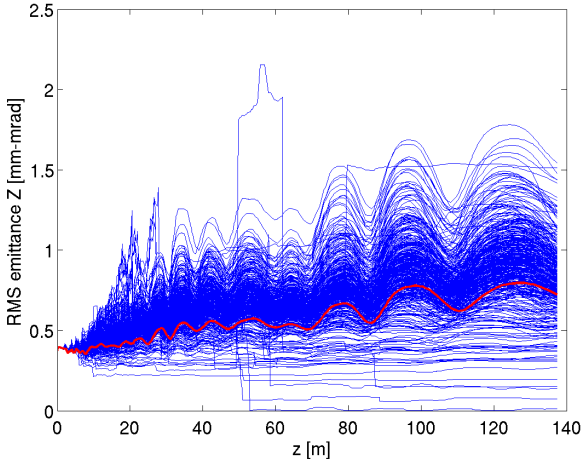
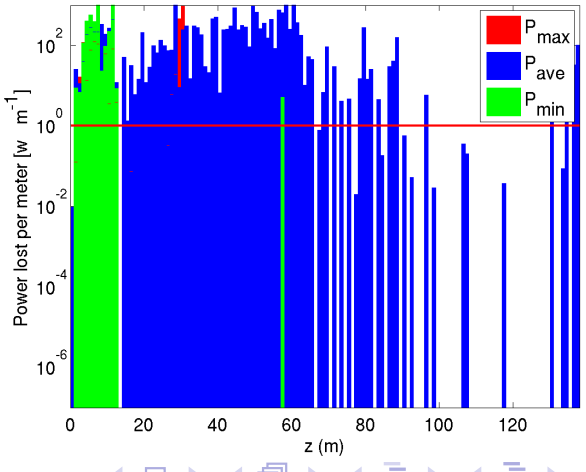


Figure: Losses [W·m^{-1}]



(150) 149 + Sol. $\delta_{xy} = 1000\ \mu$m

Figure: RMS Emittance X

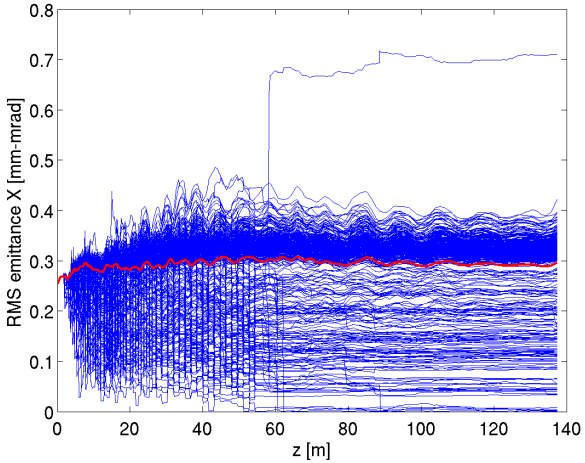


Figure: RMS Emittance Y

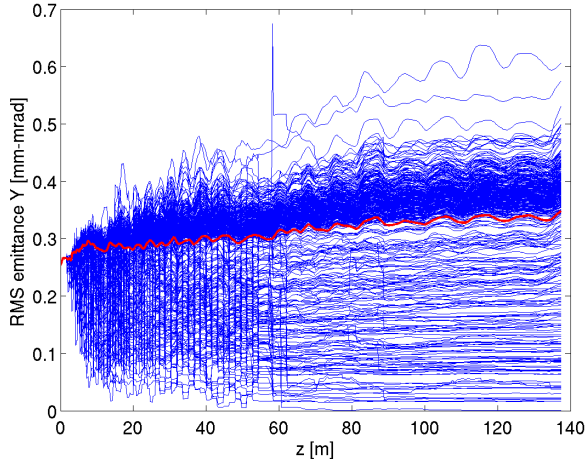


Figure: RMS Emittance Z

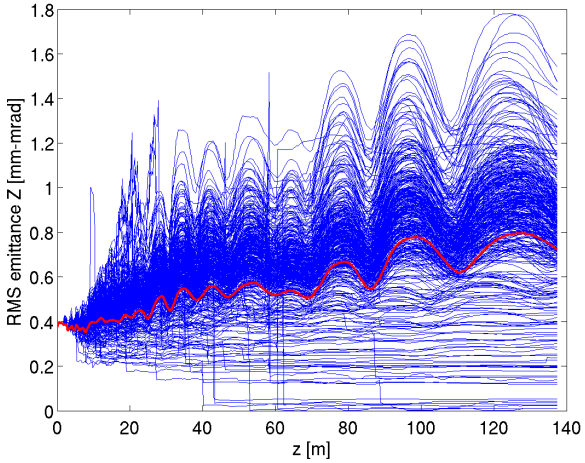


Figure: Losses [W·m^{-1}]